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The Ohio State University Bulletin

College of Arts, Philosophy and
Science

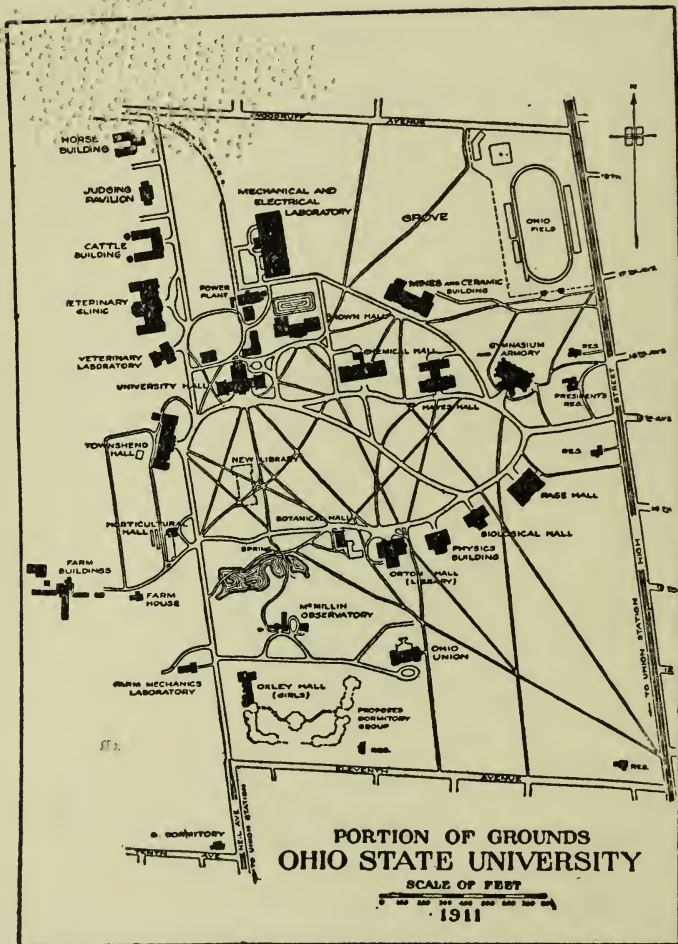


February, 1911

PUBLISHED BY THE UNIVERSITY AT COLUMBUS

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W. B. G.



THE OHIO STATE UNIVERSITY

The Ohio State University, located in Columbus two miles north of the Union Station, is a part of the public educational facilities maintained by the State. It comprises seven colleges:

The College of Agriculture,
The College of Arts, Philosophy, and Science,
The College of Education,
The College of Engineering,
The College of Law,
The College of Pharmacy,
The College of Veterinary Medicine.

This bulletin is devoted exclusively to the work of the College of Arts, Philosophy, and Science, offered during the academic year, beginning September, 1911.

(NOTE: The University publishes a bulletin describing the work of each of the Colleges. Copies may be obtained by addressing W. E. Mann, University Editor, Columbus, Ohio, and stating the college in which the writer is interested.)

UNIVERSITY CALENDAR

1911

Entrance examinations (8 a. m.), Tuesday to Saturday, June 6 to 10.

Summer Session, June 19 to August 11.

Entrance examinations (8 a. m.), Tuesday to Saturday, September 5 to 9.

First semester begins—Registration Day—Tuesday, September 12.

President's Annual Address (11 a. m.), Friday, September 15.

Latest date of admission to candidacy for a degree at the Commencement of June, 1912, Monday, October 2.

Date for mid-semester reports to the Deans concerning delinquent students, Saturday, November 18.

Thanksgiving recess begins November 29, 6 p. m., and ends December 4, 8 a. m.

Latest date for filing thesis subject, December 14.

Christmas recess begins, Friday, December 22, 6 p. m.

1912

Christmas recess ends, Tuesday, January 2, 8 a. m.

First semester ends, Thursday, February 1.

Second semester begins—Registration Day—Tuesday, February 6.

Date for mid-semester reports to the Deans concerning delinquent students, Saturday, March 30.

Competitive Drill—Cadet Regiment—Saturday, May 25.

Final examinations, Friday to Thursday, May 31 to June 6.

Latest date for presenting thesis, Thursday, May 30.

Entrance examinations (8 a. m.), Tuesday to Saturday, June 4 to 8.

Latest date for filing bound copy of thesis, Friday, June 7, 2 p. m.

Commencement, Wednesday, June 12.

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE

This College comprises those courses of study that are designed to furnish a liberal education in the languages and literatures, the sciences, mathematics, philosophy, history, politics, economics, sociology, and preparation for commerce, law, medicine, philanthropic work, administration, and journalism.

DEPARTMENTS

The College of Arts, Philosophy, and Science includes work in the following departments: American History, Anatomy and Physiology, Astronomy, Bacteriology, Botany, Chemistry, Economics and Sociology, English, European History, Geology, Germanic Languages and Literatures, Greek Language and Literature, Latin Language and Literature, Mathematics, Military Science and Tactics, Philosophy, Physical Education, Physics, Political Science, Psychology, Romance Languages and Literatures, Zoology and Entomology. The following departments also offer a limited amount of work as elective studies in the College of Arts, Philosophy, and Science: Architecture, Art, Civil Engineering, Domestic Science, Engineering Drawing, Electrical Engineering, History and Philosophy of Education, Mechanical Engineering, Mechanics, Metallurgy and Mineralogy.

GRADUATE COURSES

The graduate instruction given in the College of Arts, Philosophy, and Science is organized in a Graduate School. A special bulletin describing the organization, admission requirements, and work of the Graduate School may be obtained on application to the University Editor.

THE LAKE LABORATORY

The University maintains a Lake Laboratory at Sandusky during the summer vacation, which is designed to provide opportunity for the investigation of the biology of the lake region, and for giving certain courses of instruction in the departments of Botany and Zoology and Entomology. For further information write for a special bulletin, which may be obtained from the University Editor.

BUSINESS ADMINISTRATION AND SOCIAL
SERVICE OR JOURNALISM

Students desiring to prepare themselves to pursue a business career or to engage in philanthropic work or journalism are invited to send to the University Editor for special bulletins describing these courses.

FACULTY AND INSTRUCTORS

WILLIAM OXLEY THOMPSON, D. D., LL.D., President of the University.

JOSEPH VILLIERS DENNEY, M. A., DEAN and Professor of English.

HENRY RUSSEL SPENCER, Ph. D., SECRETARY and Professor of Political Science.

WILLIAM HENRY SCOTT, LL. D., Emeritus Professor of Philosophy.

SAMUEL CARROLL DERBY, A. M., Professor of the Latin Language and Literature.

JOSIAH RENICK SMITH, A. M., Professor of the Greek Language and Literature.

BENJAMIN FRANKLIN THOMAS, Ph. D., Professor of Physics.

GEORGE WELLS KNIGHT, Ph. D., Professor of American History.

ROSSER DANIEL BOHANNAN, B. Sc., C. E., E. M., Professor of Mathematics.

ALBERT MARTIN BLEILE, M. D., Professor of Anatomy and Physiology.

BENJAMIN LESTER BOWEN, Ph. D., Professor of Romance Languages and Literatures.

WILLIAM MCPHERSON, D. Sc., Ph. D., Professor of Chemistry.

HERBERT OSBORN, M. Sc., Professor of Zoology and Entomology, and Director of the Lake Laboratory.

HENRY CURWEN LORD, B. Sc., F. R. A. S., Professor of Astronomy, and Director of the Emerson McMillin Observatory.

CHARLES SMITH PROSSER, D. Sc., Ph. D., Professor of Geology.

JOHN ADAMS BOWNOCKER, D. Sc., Professor of Inorganic Geology, and Curator of the Museum.

ALFRED DODGE COLE, M. A., Professor of Physics.

WILBUR HENRY SIEBERT, M. A., Professor of European History.

*LEWIS ADDISON RHOADES, Ph. D., Professor of Germanic Languages and Literatures.

DAVID R. MAJOR, Ph. D., Professor of Psychology.

CHARLES BRADFIELD MORREY, B. A., M. D., Professor of Bacteriology.

JAMES EDWARD HAGERTY, Ph. D., Professor of Economics and Sociology.

CHARLES A. BRUCE, B. A., Professor of Romance Languages and Literatures.

GEORGE WASHINGTON MCCOARD, M. A., Professor of Mathematics.

*Died, August 31, 1910.

ARTHUR WINFRED HODGMAN, Ph. D., Professor of the
Classical Languages and Literatures.

WILLIAM EDWARDS HENDERSON, Ph. D., Professor of
Inorganic and Physical Chemistry.

JOSEPH RUSSELL TAYLOR, M. A., Professor of English.

CHARLES WILLIAM FOULK, B. A., Professor of Analytical
Chemistry.

THOMAS HARVEY HAINES, Ph. D., Professor of Psychology.

FRANCIS LEROY LANDACRE, B. A., Professor of Zoology
and Entomology.

WALLACE STEDMAN ELDEN, Ph. D., Professor of the
Classical Languages.

*MATTHEW BROWN HAMMOND, Ph. D., Professor of
Economics and Sociology.

*HARRY WALDO KUHN, Ph. D., Professor of Mathematics.

GEORGE H. McKNIGHT, Ph. D., Professor of English.

KARL DALE SWARTZEL, M. Sc., Professor of Mathematics.

JOSEPH ALEXANDER LEIGHTON, Ph. D., Professor of
Philosophy.

ARTHUR ERNEST DAVIES, Ph. D., Professor of Philosophy.

*EUGENE FRANKLIN McCAMPBELL, B. S., Professor of
Bacteriology.

JOHN H. SCHAFFNER, M. A., M. S., Associate Professor
of Botany.

JAMES STEWART HINE, S. Sc., Associate Professor of
Zoology and Entomology.

*Absent on leave, 1911-1912.

WILLIAM LUCIUS GRAVES, M. A., Associate Professor of English.

EDGAR SHUGERT INGRAHAM, Ph. D., Associate Professor of Romance Languages.

WILLIAM LLOYD EVANS, Ph. D., Associate Professor of Chemistry.

BERTHOLD AUGUST EISENLOHR, M. A., Associate Professor of the Germanic Languages and Literatures.

EDGAR HOLMES McNEAL, Ph. D., Associate Professor of European History.

FAYETTE AVERY McKENZIE, Ph. D., Associate Professor of Economics and Sociology.

JAMES RENWICK WITHROW, Ph. D., Associate Professor of Chemistry.

EDMUND SEWALL MANSON, JR., S. M., Associate Professor of Astronomy.

RAYMOND JESSE SEYMOUR, M. S., M. D., Associate Professor of Anatomy and Physiology.

HOMER C. HOCKETT, B. L., Associate Professor of American History.

CARSON SAMUEL DUNCAN, M. A., Assistant Professor of English.

WALTER THOMPSON PEIRCE, Ph. D., Assistant Professor of Romance Languages.

JOHN B. PRESTON, M. A., Assistant Professor of Mathematics.

ROBERT F. GRIGGS, M. A., Assistant Professor of Botany.

FREDERICK COLUMBUS BLAKE, Ph. D., Assistant Professor of Physics.

OLIVER CARY LOCKHART, M. A., Assistant Professor of Economics and Sociology.

EDWIN LONG BECK, M. A., Assistant Professor of English.

LOUIS ALBION COOPER, B. A., Assistant Professor of English.

ROBERT F. EARHART, Ph. D., Assistant Professor of Physics.

WALTER JAMES SHEPARD, B. A., Assistant Professor of Political Science.

CLARENCE PERKINS, Ph. D., Assistant Professor of European History.

ALFRED DACHNOWSKI, Ph. D., Assistant Professor of Botany.

WILLIAM FRANKLIN GEPHART, Ph. D., Assistant Professor of Economics and Sociology.

CHARLES CLIFFORD HUNTINGTON, M. A., Assistant Professor of Economics and Sociology.

ALPHEUS WILSON SMITH, Ph. D., Assistant Professor of Physics.

EDWIN POE DURRANT, M. A., Assistant Professor of Anatomy and Physiology.

THEODORE ELY HAMILTON, Ph. D., Assistant Professor of Romance Languages.

CHARLES E. BLANCHARD, LL. B., Assistant Professor of English.

CARL JOSEPH WEST, M. A., Assistant Professor of Mathematics.

NATHANIEL WRIGHT LORD, E. M., Professor of Metallurgy and Mineralogy.

OLIVE JONES, B. A., Librarian.

WILLIAM THOMAS MAGRUDER, M. E., Professor of Mechanical Engineering.

GEORGE L. CONVERSE, Captain (Retired), U. S. A., Professor of Military Science and Tactics.

*FRANCIS CARY CALDWELL, A. B., M. E., Professor of Electrical Engineering.

ALFRED VIVIAN, G. Ph., Professor of Agricultural Chemistry.

JAMES ELLSWORTH BOYD, M. S., Professor of Mechanics.

THOMAS EWING FRENCH, M. E., Professor of Engineering Drawing.

*FRANK PIERREPONT GRAVES, Ph. D., Professor of the History and Philosophy of Education.

H. SHINDLE WINGERT, M. D., Professor of Physical Education.

RUTH AIMEE WARDALL, M. A., Professor of Domestic Science.

CHARLES LINCOLN ARNOLD, M. Sc., Associate Professor of Mathematics.

SAMUEL EUGENE RASOR, M. A., M. S., Associate Professor of Mathematics.

MARY REBECCA LAVER, Professor of Art.

THOMAS McDUGALL HILLS, Ph. B., Assistant Professor of Geology.

MAY THOMAS, Ph. D., Assistant Professor of Germanic Languages and Literatures.

JOHN R. CHAMBERLIN, Assistant Professor of Civil Engineering.

CHARLES CLEMENTS MORRIS, M. A., Assistant Professor of Mathematics.

GRACE MARIE BAREIS, B. A., Assistant Professor of Mathematics.

*Absent on leave, 1911-1912.

*CHARLES SHEARD, M. A., Assistant Professor of Physics.

FREDERICA DETMERS, M. Sc., Instructor in Botany.

SARAH TRACY BARROWS, M. L., Assistant Professor of Germanic Languages and Literatures.

ROBERT OSCAR BUSEY, M. A., Instructor in German.

WILLIAM CLIFFORD MORSE, M. A., Instructor in Geology.

*Absent on leave, 1911-1912.

EXECUTIVE COMMITTEE

THE DEAN, *ex officio*; THE SECRETARY, *ex officio*;
PROFESSOR BLEILE, PROFESSOR COLE, PROFESSOR BRUCE,
and PROFESSOR HAINES.

ADMISSION

Applicants for admission must be at least sixteen years of age. The College is open on equal terms to both sexes.

UNIVERSITY ENTRANCE BOARD

The admission of students is in charge of the University Entrance Board, which determines the credits which shall be issued on all entrance examinations and certificates, and furnishes all desired information to applicants. Correspondence relating to admission should be addressed to the Entrance Board, Ohio State University, Columbus.

ADMISSION TO COURSES LEADING TO A DEGREE

There are two modes of admission—by examination and by certificate.

ADMISSION BY EXAMINATION

The Entrance Board will conduct entrance examinations June 6 to 10 and September 5 to 9, 1911. A part of the examinations may be taken in June and the remainder in September. All applicants for admission who are not graduates of an accredited or recognized secondary school or approved preparatory school, or who do not possess certificates from the State Board of School Examiners, must take examinations for admission.

SCHEDULE OF EXAMINATIONS. The hours for examinations are 8 A. M. and 1 P. M. Students intending to take any of the examinations scheduled in any given half day must appear within one hour of the time set for the examination. Students applying for examination will first go to the office of the Entrance Board, 100 University Hall, for registration.

Tuesday	A. M. History: Ancient and Medieval (to 814), Medieval and Modern (after 814), English.
“	P. M. English Composition and Rhetoric, English, Classics, Chemistry.

Wednesday	A. M.	Algebra, Physical Geography.
“	P. M.	Plane Geometry, German, Spanish.
Thursday	A. M.	Civil Government, Solid Geometry, Zoology.
“	P. M.	Beginning Latin and Caesar, Elements of Agriculture, Trigonometry.
Friday	A. M.	Physics, Physiology, Botany.
“	P. M.	American History, French, English Literature.
Saturday	A. M.	Vergil, Cicero, Domestic Science.

A special bulletin of entrance information will be mailed on request. Address The University Editor.

ADMISSION BY CERTIFICATE

Applicants may be admitted without examination on presentation of properly indorsed certificates from such secondary schools as have been accredited or recognized by the University, or from approved normal schools, or from the State Board of School Examiners under the following provisions:

(a) If from secondary schools, the certificate must show that the applicant is a graduate in good standing of the school issuing it; and also must state in detail the studies pursued, the text-books used, the amount of work done in each study, the amount of time devoted to it, and the fact that the applicant has passed in the work.

(b) Any entrance requirement not covered by a certificate must be met by examination.

Blank certificates may be obtained by addressing the Secretary of the Entrance Board. Certificates should be filled out and returned to the University by the proper school official as early as possible after the close of schools in June.

REQUIREMENTS BY UNITS

A unit is the equivalent of a course of study continuing through a school year and covering, in the aggregate, not

less than one hundred and twenty clock-hours of class-room work, two hours of manual training or laboratory work being equivalent to one hour of class-room work.

English 4 units

(Foreign students may substitute their native language for the English requirement.)

American History or American History and Civil Government 1 unit

Ancient History (Greek and Roman) and Medieval History to 814 A. D. 1 unit

Medieval and Modern History (from 814 A. D. to the present) 1 unit

(For the present, General History may be counted as a unit, but not in addition to Ancient or Medieval and Modern History.)

English History 1 unit

Algebra (through quadratics) 1 unit

Algebra (beyond quadratics) $\frac{1}{2}$ unit

Geometry (plane) 1 unit

Geometry (solid) $\frac{1}{2}$ unit

Trigonometry $\frac{1}{2}$ unit

Latin 2, 3, or 4 units

Greek 2, 3, or 4 units

German 2, 3, or 4 units

French 2, 3, or 4 units

Spanish 2, 3, or 4 units

(Not less than two units of any language will be accepted.)

Physics 1 unit

Chemistry 1 unit

Physical Geography 1 unit

Zoology 1 unit

Botany 1 unit

Physical Geography	} For the present any two of these may be counted together as 1 unit
Zoology	
Botany	
Physiology	

Agriculture	} The Entrance Board may, after investigating each claim, grant a total credit of not to exceed 2 units
Free-hand Drawing	
Manual Training	
Domestic Science	
Commercial Geography	

Preparation in excess of the requirements in any subject will not be credited unless it amounts to one-half unit.

No student under twenty-one years of age will be admitted to college if he is conditioned in more than two of the fifteen units. All entrance conditions must be removed within two years after admission.

Students over twenty-one years of age are admitted in accordance with the provisions stated under "Admission to Special Studies."

The extent and character of the work required in each subject mentioned above is explained in a special bulletin which will be sent to any address upon request. In general, it may be stated that the definitions of the North Central Association of Colleges and Secondary Schools are accepted as our definitions.

ADMISSION WITH ADVANCED STANDING

Applicants who have completed at least one year's work in an approved college, and who bring official and explicit certificates describing their courses of study and scholarship, and letters of honorable dismissal, will be admitted in accordance with either of two plans:

(1) The entrance units on which the candidate was admitted to the approved college will be accepted at their face value; deficiencies will be made up from the college credits presented, and advanced credit will be given for any remaining satisfactory work; or

(2) One year's work will be accepted in lieu of entrance units and the candidate will be admitted without examination and without conditions, but without any advanced standing on the year's work.

Applicants who have completed less than one year's work in an approved college must satisfy the entrance requirements in the usual way, and will then be given credit for any satisfactory work for which they can offer certificates.

ADMISSION TO SPECIAL STUDIES

Students who desire to pursue special lines of work and do not desire to become candidates for a degree, will be admitted on the following conditions:

1. The regular entrance requirements must be satisfied.
2. But applicants who are not less than twenty-one years of age, after obtaining credit for the common English branches and for such other subjects as may be necessary to qualify them for the classes that they wish to enter, may, on the presentation of satisfactory reasons, be admitted to any class in the college; provided, that if any student who has been admitted on these conditions afterwards becomes a candidate for a degree, he shall pass the omitted entrance examinations at least twelve months before the degree is conferred.
3. Before entering the College, students desiring to pursue special work are required to lay before the Executive Committee, for approval or modification, a written statement of the end they have in view, the studies proposed for the attainment of that end, and the probable period of attendance. Such students will be held as strictly to their accepted schemes of work as are the regular under-graduates to the course of study.
4. Permission to enter as special undergraduates will be refused to all who fail to give satisfactory evidence of definiteness of purpose, and will be withdrawn whenever the conditions on which it was granted cease to exist.

ADMISSION TO GRADUATE WORK

A special bulletin devoted exclusively to the Graduate School may be obtained on application to the University Editor.

REMOVAL OF ENTRANCE CONDITIONS

Entrance conditions may be removed (1) by examination conducted only by the Entrance Board; or (2) by the substitution by the Entrance Board of excess work in other approved subjects; or (3) by the substitution of other work of equivalent amount to be done in the University; and it shall be the duty of the secretaries in their respective colleges to assign to each student having entrance conditions outstanding at the end of the Freshman year such college courses for the following years as may be deemed a fair equivalent for the work in which the student has entrance conditions. But a student who has completed a collegiate course is not eligible for entrance examinations upon the same topic, unless it is a fixed requirement in the college in which he is registered. (Faculty Rule 97.)

REQUIREMENTS FOR GRADUATION

THE GROUP ELECTIVE SYSTEM

The work of the College of Arts, Philosophy and Science is organized on the group elective system. About one-third of every student's curriculum is prescribed by the regulations given below. Each student is required to lay sufficiently broad foundations in English, other languages, the sciences, history, or economics, and in mathematics, philosophy, or psychology. The remaining two-thirds of the student's work is elective.

On satisfactory completion of 120 semester hours under the regulations prescribed below, the student will be recommended for the degree of Bachelor of Arts.

The departments in which credit may be obtained are arranged in the following four groups:

(A) LANGUAGES AND LITERATURES

English, Germanic Languages and Literatures, Greek Language and Literature, Latin Language and Literature, Romance Languages and Literatures.

(B) NATURAL SCIENCES

Anatomy and Physiology, Astronomy, Bacteriology, Botany, Chemistry, Geology, Physics, Zoology and Entomology.

(C) SOCIAL SCIENCES

American History, Economics and Sociology, European History, Political Science.

(D) MATHEMATICS—PHILOSOPHY

Mathematics, Philosophy, Psychology.

COURSES OPEN TO FRESHMEN

English 101-104, 2 credit hours; English 131-134 (or 132-133) 3 credit hours.

French 101-102, 4 credit hours; French 103-104 (for students who enter with two units in French), 4 credit hours.

German 101-102, 4 credit hours; German 103-104 (for students who enter with two units in German), 4 credit hours.

Greek 101-102, 4 credit hours; Greek 105-106 (for students who enter with two units in Greek), 4 credit hours.

Latin 101-102 (for students who enter with three or four units in Latin), 4 credit hours.

Spanish 101-102, 4 credit hours; Spanish 103-104 (for students who enter with two units in Spanish), 4 credit hours.

Botany 101-102, 4 credit hours.

Zoology 101-102, 3 credit hours.

Astronomy 101-102, 3 credit hours.

Chemistry 105-106, 4 credit hours; Chemistry 109-110 (for students who enter with one unit in Chemistry), 4 credit hours.

Geology 101-102, 3 credit hours.

Physics 103-104, 4 credit hours; Physics 105-106 (for students who enter with one unit in Physics), 4 credit hours.

American History 101-102, 3 credit hours.

Economics 131-134, 3 credit hours.

European History 101-102, 3 credit hours.

Mathematics 121-122, 3 credit hours; Mathematics 131-132, 5 credit hours; Mathematics 123-124, 1 credit hour.

Philosophy 101-102, 3 credit hours.

Psychology 101-102, 3 credit hours.

Drill; Gymnasium.

REGULATIONS

(1) Cadet service is required of all men during the first and second years.

Physical Education is prescribed for all men during the first year and for all women during the first and second years.

(2) English 101-104 is to be taken by all students, ordinarily in the first year.

(3) In each of the four groups named above the student must secure credit for at least six semester hours (a year course), this requirement to be satisfied in the first and second years.

(4) Sixteen hours of credit in languages other than English are required. But for students who enter with six units of credit in languages other than English, the college requirement is eight instead of sixteen hours. In high school and college together the student must have credit in at least two languages other than English.

(5) Every student is required (a) to secure credit for at least six semester hours in a biological science (Botany, Physiology, or Zoology), and (b) at least six semester hours in a non-biological science (Astronomy, Chemistry, Geology or Physics). But students who are credited on admission with one unit in Botany or one unit in Zoology are excused from requirement (a) and students who are credited on admission with both one unit in Chemistry and one unit in Physics are excused from requirement (b).

(6) At least 36 of the 120 hours required for the degree must be in some one group, and at least 18 in some other one group. In no one of the groups may more than 60 hours be credited for the degree, exclusive of the requirement made in Regulations 2, 3, 4, and 5 above.

(7) At least 36 of the 120 hours required for the degree must be in courses not open to Freshmen.

(8) Courses open to freshmen, if elected by seniors, give credit diminished by one hour.

(9) Each year's work must consist of 15 or 16 hours work each semester. On petition to the Executive Committee a student who shows exceptional proficiency may take from one to three extra hours, but in no case will more than 18 hours be permitted. No extra hours will be granted to a first-year student or to a student having conditions outstanding in his Entrance or College record.

RULE GOVERNING ELECTIONS

Each student enrolled in the College of Arts, Philosophy, and Science must file at the Registrar's office not later than June 1st of each year a complete statement of the courses he wishes to enter the following year. Blanks for this purpose may be obtained of the Registrar.

FEE FOR CHANGES IN SUBJECTS OR
SCHEDULE

After ten days from registration day, changes in subjects or schedule, if made at the instance of the student, shall be made only upon the payment of a fee of \$1.00 for each change. Requests for changes for the second semester must be filed with the College Secretary on or before the third day of the semester, or the fee of \$1.00 will be assessed for each change made at registration at the request of the student.

STUDENT ADVISERS

The Faculty of Arts, Philosophy, and Science has provided a system of advisers, the chief objects of which are: (1) to assist the undergraduates in choosing studies that will result in a well-rounded course and will achieve most economically the purpose which the student has in view in his course; (2) to promote closer personal relations between student and instructor and thus to aid the student, so far as possible, in all matters connected with his university life. On entering the University each student is assigned by the Executive Committee to a temporary adviser to whom he is cordially invited to resort for counsel as often as the need arises. Before the close of the year each student chooses a permanent adviser. Each student is required to secure the signature of his adviser to his election-card in June of each year, and to petitions, at any time during the year, for a change in work or for increase or diminution of work.

THE ARTS-LAW COURSE

A candidate for the degree of Bachelor of Arts while registered in the College of Arts, Philosophy, and Science may also register in the College of Law as a candidate for the degree of Bachelor of Laws, *provided* that at the time of seeking such registration in the College of Law (1) he has 90 hours to his credit in the College of Arts, Philosophy, and Science, including the requisite optional subjects, and exclusive of the credit hours in Military Drill and Physical Training, and (2) has been a student in the College of Arts, Philosophy, and Science of this University at least one year, and (3) has included (or with the further work in the College of Arts, Philosophy, and Science mentioned in the next paragraph shall complete) sufficient courses to amount to twenty hours in one or more of the five subjects: American History, European History, Economics, Sociology, and Political Science.

A student so registered in the two colleges must, during his first year of double registration, complete sufficient further work in the College of Arts, Philosophy, and Science to make his credits in that college aggregate 100 hours, exclusive of the credit hours in Military Drill and Physical Training. When he has done this and has completed in the College of Law the first year of the course for the degree of Bachelor of Laws, he will be recommended for the degree of Bachelor of Arts; and when he has completed the second and third years of such course in the College of Law, he will be recommended for the degree of Bachelor of Laws.

Application to enter the combined course must be filed with the Dean of the Arts College before registration day at the beginning of the year in which the student is eligible to enter the combined work.

No credit in the College of Arts, Philosophy, and Science will be given for work done in the College of Law except as above provided, but regular fourth-year students in the former college may, by special permission, take a limited amount of the work in the College of Law without credit in the College of Arts, Philosophy, and Science.

The work of all students taking studies in the two colleges at the same time is under the jurisdiction of a joint committee, consisting of Professor Denney, Dean of the College of Arts, Philosophy, and Science; Professor Adams, Dean of the College of Law; Professors Siebert, Page, and Bruce.

ANNOUNCEMENTS OF DEPARTMENTS*

AMERICAN HISTORY

(Office, Room 207, University Hall)

PROFESSOR KNIGHT, ASSOCIATE PROFESSOR HOCKETT

FOR UNDERGRADUATES

101-102. POLITICAL HISTORY OF THE UNITED STATES. Three credit hours. The year. Professor KNIGHT, Associate Professor HOCKETT, Assistant Professor SHEPARD.

An outline course, covering the period 1600-1900, considering political, economic, and personal aspects of American history from the origins to the present day. The Epochs series, by Thwaites, Hart, and Wilson, and MacDonald's Documentary Source Book of American History, will be used as text-books, supplemented by outside reading in the works of Fiske, the American Statesman series, and the American Nation series. Recitations and reports. This must precede all other courses in American history.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

103. THE AMERICAN COLONIES, 1600-1763. Three credit hours. First semester. Associate Professor HOCKETT.

A course in the general history of the English colonies in America, with especial emphasis on European conditions affecting colonization, the development of the colonial political system, and relations with the mother country. Lectures, quiz, and reports.

104. THE HISTORY OF THE WEST. Three credit hours. Second semester. Associate Professor HOCKETT.

This course will study the westward advance of population since early colonial times, dealing with the causes of the movement, conditions affecting it, the development of new communities, and the influence of this western growth upon national history and institutions. The course is essentially a study of the growth of American society. Lectures, quiz, and assigned readings.

*A special bulletin, The Time Schedule, is published annually. It gives the time (the day and hour) and place of recitation for every course of study offered in the University. Copies may be secured from the University Editor.

105-106. THE REVOLUTIONARY AND CRITICAL PERIOD, 1763-1787. Two credit hours. The year. Professor SPENCER.

An examination of the constitutional relations of the American colonies to the British empire; of the political, commercial, and personal causes of the revolt, and the process by which they co-operated to bring about separation; of the radical movement and the reaction from it; of the constructive elaboration of written constitutions by the states and for the Union. Lectures, quiz and reports.

*107-108. CONSTITUTIONAL HISTORY OF THE UNITED STATES. Two credit hours. The year. Associate Professor HOCKETT.

A careful study of the origin and growth of the federal constitution. Beginning with the formulation of the constitution by the convention of 1787, the course follows its development as interpreted by the executive, congress, and the courts, in dealing with such questions as the acquisition of territory, internal improvements, the tariff, United States bank, slavery, relations of the nation and the states. Lectures, quiz, and reports. Given biennially.

109-110. POLITICAL PARTIES IN THE UNITED STATES. Two credit hours. The year. Associate Professor HOCKETT.

A detailed study of the rise, progress, and decline of the several parties, with special reference to their social, geographical, and personal composition, and their effect on legislation and presidential elections. Lectures, quiz, and reports. Given biennially.

*111. THE SLAVERY STRUGGLE to 1854. Three credit hours. First semester. Given biennially, alternating with course 113. Professor KNIGHT.

*112. THE SLAVERY STRUGGLE AND ITS RESULTS, 1854-1900. Three credit hours. Second semester. Given biennially, alternating with course 114. Professor KNIGHT.

Courses 111 and 112 comprise a detailed study of the development of slavery in its connection with and influence upon the constitutional and political history of the country, the rise and fall of parties, and the divergence of the sections; its relation to the Civil War; the results of the struggle traced in the reconstruction of the southern states and the readjustment of society and the states to the new status of the negro. Lectures, quiz, and reports.

113. THE HISTORY OF AMERICAN DIPLOMACY, 1776-1850. Three credit hours. First semester. Given biennially, alternating with course 111. Professor KNIGHT.

*Not given in 1911-1912.

114. AMERICAN DIPLOMATIC HISTORY AND PROBLEMS, 1850-1910. Three credit hours. Second semester. Given biennially, alternating with course 112. Professor KNIGHT.

Courses 113 and 114 comprise a systematic study of the diplomacy and foreign relations of the United States; the birth, evolution, and variations of the foreign policy of the country in territorial, commercial, and continental subjects, with a consideration of recent important diplomatic problems in this field. Lectures, quiz, and reports.

119. PROSEMINAR IN POLITICAL HISTORY. Two credit hours. First semester. Time to be arranged. Prerequisite, four semesters in American history. Associate Professor HOCKETT.

120. PROSEMINAR IN POLITICAL HISTORY. Two credit hours. Second semester. Time to be arranged. Prerequisite, four semesters in American history. Associate Professor HOCKETT.

The work of the Proseminar for the year 1911-1912 will be a co-operative study of the administrations of Washington and Adams.

EXCLUSIVELY FOR GRADUATES

201. RECONSTRUCTION OF THE SOUTH, 1862-1870. Two hours. First semester. Professor KNIGHT.

An intensive study of the reconstruction era, the action of the national executive and congress and the installation of the reconstructed state governments.

202. POLITICAL HISTORY OF THE SOUTH, 1870-1900. Two hours. Second semester. Professor KNIGHT.

A detailed study of the career of the reconstructed state governments, the failure and undoing of reconstruction, and the influence of the era upon national history.

*203-204. THE UNITED STATES AND LATIN AMERICA, 1800-1905. Two hours. The year. Professor KNIGHT.

A study of the diplomatic and political history, and of the problems and policies, of the United States in relation to Mexico, Central and South America, and Cuba. This course alternates biennially with courses 201 and 202.

205. GRADUATE SEMINAR IN AMERICAN HISTORY. Two hours. First semester. Professor KNIGHT.

206. GRADUATE SEMINAR IN AMERICAN HISTORY. Two hours. Second semester. Professor KNIGHT.

The field of investigation and co-operative study for 1911-1912 will be the administration of Polk.

*Not given in 1911-1912.

ANATOMY AND PHYSIOLOGY

(Office, Room 12, Biological Hall)

PROFESSOR BLEILE, ASSOCIATE PROFESSOR SEYMOUR, ASSISTANT PROFESSOR DURRANT.

101-102. HUMAN ANATOMY AND PHYSIOLOGY. Three credit hours. The year. Must be preceded by a course in chemistry. Professor BLEILE, Associate Professor SEYMOUR.

104. CHEMICAL PHYSIOLOGY. Three credit hours. Second semester. Professor BLEILE.

105-106. HISTOLOGY AND HISTO-CHEMISTRY. Five credit hours. The year. Professor BLEILE, Associate Professor SEYMOUR, Assistant Professor DURRANT.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

109-110. PHYSIOLOGICAL LABORATORY. Three credit hours. Time to be arranged. The year. Professor BLEILE.

111-112. PHYSIOLOGICAL LABORATORY. Five credit hours. Time to be arranged. The year. Professor BLEILE.

115. ADVANCED PHYSIOLOGY. Circulation, digestion, and respiration. Three credit hours. First semester. Prerequisite, Physiology 101-102. Professor BLEILE.

118. ADVANCED PHYSIOLOGY. The nervous system. Three credit hours. Second semester. Professor BLEILE.

EXCLUSIVELY FOR GRADUATES

201-202. ADVANCED PHYSIOLOGY. Three hours. The year. Time to be arranged.

203-204. ADVANCED PHYSIOLOGY. Five hours. The year. Time to be arranged.

ANCIENT ART

(See Greek Language and Literature.)

ASTRONOMY

(Office, Emerson McMillin Observatory)

PROFESSOR H. C. LORD, ASSOCIATE PROFESSOR MANSON

101-102. GENERAL ASTRONOMY. Three credit hours. The year. Two sections. Number of students in each section limited to 36. For undergraduates. Associate Professor MANSON.

104-105. ASTRONOMY, GEODESY AND LEAST SQUARES. Three credit hours. The year.

This course begins in the second semester and continues through the first semester of the following year. Prerequisite, the calculus. Professor LORD, Associate Professor MANSON.

107-108. ADVANCED ASTRONOMY. Three to five credit hours. The year. Time to be arranged. Prerequisite, the calculus. Professor LORD.

BACTERIOLOGY

(Office, Veterinary Laboratory Building)

PROFESSOR MORREY, PROFESSOR McCAMPBELL, MR. STARIN, MR. ———

These courses in Bacteriology are open to advanced undergraduate and graduate students only. The instructor in charge must be consulted before electing.

107. GENERAL BACTERIOLOGY. Three to five credit hours. First semester. Lecture, quiz, and laboratory. Professor MORREY, Professor McCAMPBELL, Mr. STARIN.

Making of media, cultures, staining methods, physiological properties.

108. PATHOGENIC BACTERIA. Three to five credit hours. Second semester. Same time as Bacteriology 107. Prerequisite, Bacteriology 107. Professor MORREY, Professor McCAMPBELL, Mr. STARIN.

114. WATER EXAMINATION, SEWAGE DISPOSAL, WATER FILTRATION. Three to five credit hours. Second semester. Prerequisite, 107. Lecture, quiz, and laboratory. Professor MORREY.

116. BACTERIOLOGICAL CHEMISTRY (Enzymes). Three to five credit hours. Second semester. One lecture, one quiz, two to six hours laboratory work. Prerequisite, Bacteriology 107. Time to be arranged. Professor MORREY.

PRIMARILY FOR GRADUATES

*117-118. IMMUNITY AND SERUM THERAPY. Three to five credit hours. The year. Lectures and laboratory. Time to be arranged. Prerequisite, 107 and 108, or equivalents. Professor McCAMPBELL.

Preparation of toxins, antitoxins, vaccines and immune serums.

*119-120. PATHOGENIC PROTOZOA. Three to five credit hours. The year. Time to be arranged. Two lectures, two to six hours' laboratory work. Prerequisites, Bacteriology 107 and 108, or equivalents. Professor McCAMPBELL.

*Not given in 1911-1912.

125-126. SPECIAL PROBLEMS IN BACTERIOLOGY. Three to five credit hours. The year. Time to be arranged. Conferences, library, and laboratory work. Prerequisite, one year's work in Bacteriology. Professor MORREY, Professor McCAMPBELL.

BOTANY

(Office, Botanical Hall)

ASSOCIATE PROFESSOR SCHAFFNER, ASSISTANT PROFESSOR GRIGGS, ASSISTANT PROFESSOR DACHNOWSKI, MISS DETMERS

101-102. GENERAL BOTANY. Four credit hours. The year. Text-books, Curtis' Nature and Development of Plants, Schaffner's Laboratory Outlines for General Botany (2d edition). Lecture, quiz, and laboratory. Associate Professor SCHAFFNER, Miss DETMERS.

This course is a general survey of the plant kingdom by the method of types. It is intended to give a general view of the morphology, evolution and classification of plants from the lowest to the highest.

110. DENDROLOGY. Two credit hours. Second semester. Text-book, Schaffner's Trees of Ohio and Surrounding Territory. Associate Professor SCHAFFNER.

A study of trees and shrubs with practice in the identification of woody plants, both in summer and winter condition. Students are required to prepare a dendrological herbarium.

116. PLANT PATHOLOGY. Three credit hours. Second semester. Text-book, Duggar's Fungous Diseases of Plants. Lecture and laboratory. Assistant Professor GRIGGS.

117-118. FOREST BOTANY. Four credit hours. The year. Lectures and laboratory. Prerequisite, Botany 101-102, or equivalent. Assistant Professor DACHNOWSKI.

120. FIELD BOTANY. Two credit hours. Second semester. Time to be arranged. Prerequisite, Elementary Botany. Assistant Professor GRIGGS.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

123-124. ADVANCED MORPHOLOGY. Three to five credit hours. The year. Laboratory. Prerequisite, Botany 101-102, or equivalent. Assistant Professor GRIGGS.

This course is intended to complete the morphological training begun in the first year. It includes instruction in microtechnique. Whenever possible this course should be accompanied by Botany 135-136.

125-126. PLANT PHYSIOLOGY. Four credit hours. The year. Lectures and laboratory. Prerequisite, Botany 101-102, or equivalent. Assistant Professor DACHNOWSKI.

The course is an experimental study of the soil, air, and biotic relations of plants. It aims to give training and instruction in such phases of nutrition, growth, movement, and the tropisms of plants as have a practical bearing in agriculture, forestry, and general biology.

127-128. SPECIAL MYCOLOGY. Three credit hours. The year. Laboratory and field work. Prerequisite, Botany 101-102, or equivalent. Time to be arranged. Associate Professor SCHAFFNER.

129-130. SYSTEMATIC BOTANY. Three to five credit hours. The year. Time to be arranged. Prerequisite, Botany 101-102, or equivalent. Associate Professor SCHAFFNER.

131-132. CYTOLOGY AND MICROTECHNIQUE. Three to five credit hours. The year. Time to be arranged. Prerequisite, Botany 123-124, or equivalent. Associate Professor SCHAFFNER.

133-134. MINOR INVESTIGATIONS. Three credit hours. The year. Prerequisite, Botany 101-102, or equivalent. Time to be arranged. Associate Professor SCHAFFNER, Assistant Professor GRIGGS, Assistant Professor DACHNOWSKI.

135-136. EVOLUTION OF PLANTS. One credit hour. The year. Prerequisite, one-year course in botany. Associate Professor SCHAFFNER.

137-138. SEMINARY IN BOTANY. One credit hour. The year. Prerequisite, one-year course in botany. Time to be arranged.

This course should be elected only in connection with other advanced work.

EXCLUSIVELY FOR GRADUATES

201-202. RESEARCH IN SYSTEMATIC BOTANY. Three to ten hours. The year. Laboratory open daily. Associate Professor SCHAFFNER, Assistant Professor GRIGGS.

203-204. RESEARCH IN MORPHOLOGY AND CYTOLOGY. Four to ten hours. The year. Laboratory open daily. Associate Professor SCHAFFNER, Assistant Professor GRIGGS.

205-206. RESEARCH IN PHYSIOLOGY AND ECOLOGY. Four to ten hours. The year. Laboratory open daily. Assistant Professor DACHNOWSKI.

CHEMISTRY

(Office, Chemistry Hall)

PROFESSOR MCPHERSON, EMERITUS PROFESSOR NORTON, PROFESSORS HENDERSON, FOULK, ASSOCIATE PROFESSORS EVANS, WITHROW, DR. WILKINSON, MR. KELLOGG, AND DEPARTMENT ASSISTANTS

FOR UNDERGRADUATES

105. ELEMENTARY CHEMISTRY. Four credit hours. First semester. Lectures, quiz and laboratory. Associate Professor EVANS, Miss MORGAN, Mr. STRATTON, Mr. HALL.

A general course on the chemistry of the non-metals, arranged for students who have not presented chemistry as an entrance requirement. Students taking this course will follow with course 106, second semester.

106. ELEMENTARY CHEMISTRY AND QUALITATIVE ANALYSIS. Four credit hours. Second semester. Prerequisite, Chemistry 105. Associate Professor EVANS, Mr. KELLOGG, Mr. STRATTON, Miss MORGAN.

A general course on the chemistry of the metals. The laboratory work accompanying is a general introductory course in qualitative analysis.

109. GENERAL CHEMISTRY. Four credit hours. First semester. One lecture, one quiz, six hours laboratory work weekly. Associate Professors EVANS and WITHROW, Mr. KELLOGG, Mr. WITZEMANN.

A general course on the chemistry of the non-metals. It is more advanced than course 105 and is arranged for students who have had an acceptable course in elementary chemistry in a secondary school. Students taking this course will follow with course 110, second semester.

110. GENERAL CHEMISTRY AND QUALITATIVE ANALYSIS. Four credit hours. Second semester. Prerequisite, Chemistry 109. Associate Professor EVANS, Mr. KELLOGG, Mr. STRATTON, Miss MORGAN.

A general course on the chemistry of the non-metals. It is more advanced than course 106. The laboratory work is a general course in qualitative analysis.

113-114. ADVANCED GENERAL CHEMISTRY. Two credit hours. The year. Two lectures weekly. Prerequisite, Chemistry 106 or 110. Professor HENDERSON.

A course of fundamental topics in the field of advanced general chemistry.

117. QUALITATIVE ANALYSIS. Elementary course. Three credit hours. First semester. One lecture and six hours laboratory work weekly. Prerequisite, an acceptable course in general chemistry. Dr. WILKINSON.

119-120. QUANTITATIVE ANALYSIS. Four credit hours. The year. One lecture, nine hours laboratory work weekly. Laboratory open forenoons and afternoons. Prerequisite, course 106 or 110, or equivalent. Professor FOULK, Dr. WILKINSON.

First semester, elementary principles of gravimetric and volumetric analysis. Second semester, continuation of work of first semester with typical analytical methods, gravimetric and volumetric. This course must be accompanied by course 124, except by special permission of the instructor. It is also desirable that it be accompanied by course 113-114.

124. CHEMICAL PROBLEMS. One credit hour. Second semester. Professor FOULK.

Extended practice in the solution of problems pertaining to gravimetric and volumetric analysis. This course is arranged to accompany course 119-120.

136. THE READING OF CHEMICAL LITERATURE. Two credit hours. Second semester. Prerequisite, one year of German. Professor FOULK.

The object of this course is to afford practice in the rapid reading of German chemical literature, the selections being made with special reference to the technical terms of the science.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

151-152. ORGANIC CHEMISTRY. Two credit hours. The year. Two lectures weekly. Prerequisite, courses 113-114 and 119-120, except by special permission of the instructor. Professor MCPHERSON.

This is a general course in organic chemistry.

153-154. ORGANIC CHEMISTRY. Two or three credit hours. The year. Six or nine hours laboratory work weekly. Laboratory open afternoons. This course must be accompanied or preceded by course 151-152. Professor MCPHERSON, Mr. BOORD.

A general course in the preparation of typical organic compounds.

157-158. PHYSICAL CHEMISTRY. Three credit hours. The year. Three lectures weekly. Prerequisite, courses 113-114, 119-120, and 151-152, except by special permission of the instructor. Professor HENDERSON.

This is a general course in physical chemistry.

161. PHYSICAL CHEMISTRY. Two or three credit hours. First semester. Six to nine hours laboratory work weekly. Prerequisite, or concurrent, Chemistry 157-158. Professor HENDERSON.

An elementary course in physico-chemical measurements.

162. PHYSICAL CHEMISTRY. Two or three credit hours. Second semester. Repetition of Chemistry 161. Professor HENDERSON.

165. QUANTITATIVE ANALYSIS. Advanced course. Three to five credit hours. First semester. One lecture, six to twelve hours laboratory work weekly. Prerequisite, Chemistry 119-120, or equivalent. Professor FOULK.

This course is a continuation of course 119-120. It includes a systematic study of methods from one of the more exhaustive textbooks and also some practice in the preparation of pure material and the trial of an analytical method with it.

167. SPECIAL METHODS OF ANALYSIS. Three to five credit hours. First semester. One lecture and six to twelve hours laboratory work weekly. Selections may be made from gas analysis, microchemical analysis and spectrum analysis. Prerequisite, Chemistry 119-120. Dr. WILKINSON.

168. QUALITATIVE ANALYSIS. Advanced course. Second semester. Three to five credit hours. One lecture, six to twelve hours laboratory work weekly. Prerequisite, Chemistry 119-120, or equivalent. Dr. WILKINSON.

Extended work in general qualitative analysis including the more important of the rarer elements.

176. SANITARY ANALYSIS. Three credit hours. Second semester. Two lectures, three hours laboratory work weekly. Laboratory open forenoons and afternoons. Prerequisite, Chemistry 119-120, or equivalent. Professor FOULK.

A study of the methods of sanitary water analysis and the interpretation of results.

177. INDUSTRIAL CHEMISTRY. Two credit hours. First semester. Two lectures weekly. Prerequisite, Chemistry 113-114 and 153-154. Associate Professor WITHROW.

A general course in the principles underlying the application of chemistry in the industries.

178. INDUSTRIAL CHEMISTRY. One credit hour. Second semester. One lecture weekly. A continuation of Chemistry 177. Associate Professor WITHROW.

185. INDUSTRIAL CHEMISTRY. Two credit hours. First semester. One conference, five hours laboratory work weekly. Prerequisite, Chemistry 119-120, and must be accompanied or preceded by Chemistry 177-178. Associate Professor WITHROW.

Industrial chemical research.

186. INDUSTRIAL CHEMISTRY. Three credit hours. Second semester. One conference, eight hours laboratory work weekly. A continuation of Chemistry 185. Associate Professor WITHROW.

In the latter portion of the semester the study of methods for the analysis of industrial products is undertaken.

187. INORGANIC PREPARATIONS. Two or three credit hours. First semester. Six to nine hours laboratory work weekly. Laboratory open afternoons. Prerequisite, Chemistry 113-114. Professor HENDERSON.

A course in the preparation of a limited number of compounds chosen so as to give practice in the different kinds of manipulation involved in the preparation of inorganic compounds.

188. INORGANIC PREPARATIONS. Two or three credit hours. Second semester. Laboratory open afternoons. Repetition of course 187. Professor HENDERSON.

*191. RARE ELEMENTS. Two credit hours. Second semester. Two lectures weekly. Prerequisite, Chemistry, 119-120 and 113-114. Given biennially. Professor HENDERSON.

A general course on the chemistry of the rare elements, including a discussion of their increasing economic importance.

194. APPLIED ELECTRO CHEMISTRY. Two credit hours. Second semester. Two lectures weekly. Prerequisite, Chemistry, 157-158, except by special permission of the instructor. Associate Professor WITHROW.

A descriptive course covering the application of the electric current in the chemical industries.

*Not offered in 1911-1912.

EXCLUSIVELY FOR GRADUATES

201-202. PHYSICAL CHEMISTRY. Three hours. The year, or may be elected either semester separately. Nine hours laboratory work weekly. Prerequisite, Chemistry 157-158. Professor HENDERSON.

A general course on physico-chemical measurements.

205-206. ORGANIC CHEMISTRY. Advanced course. Three to five hours. The year. Library, conference, and laboratory work. Prerequisite, Chemistry 153-154, except by special permission of the instructor. Professor McPHERSON.

Special attention is given to the preparation of organic compounds with reference to yield and purity of products. Extended practice is also given in the quantitative determination of the elements present in organic compounds.

209-210. INORGANIC PREPARATIONS. Three hours. The year. Library, and laboratory work. Prerequisite, Chemistry 187-188. Professor HENDERSON.

This is an advanced course dealing largely with the preparation and study of a series of compounds of certain rare metals, or of more unusual types of compounds presenting experimental difficulties.

*213. HISTORICAL CHEMISTRY. Two hours. First semester. Two lectures weekly. Given in 1911-1912 and biennially thereafter. Pre-biennially. Professor McPHERSON.

A general advanced course in historical chemistry.

*215. ORGANIC CHEMISTRY. Two hours. First semester. Two lectures weekly. Prerequisite, permission of instructor in charge. Given biennially. Professor McPHERSON.

A general discussion of some important topic in organic chemistry.

218. ORGANIC CHEMISTRY. Two hours. First semester. Two lectures weekly. Prerequisite, permission of the instructor. Given biennially. Associate Professor EVANS.

This course is similar to course 215. Topic for 1911-1912, "The Purin Derivatives and the Amino Acids." Since the topic changes from year to year, the course may be elected in different years by the same student.

*220. INORGANIC CHEMISTRY. Two hours. Second semester. Two lectures weekly. Prerequisite, Chemistry 157-158. Given biennially. Mr. KELLOGG.

*Not given in 1911-1912.

A general discussion of some important topic in the field of inorganic chemistry. Since the topic changes from year to year, the course may be elected in different years by the same student.

221. CHEMICAL THERMODYNAMICS. Two hours. First semester. Two lectures weekly. Given in 1911-1912 and biennially thereafter. Prerequisite, permission of the instructor. Professor HENDERSON.

224. ELECTRO CHEMISTRY. Two hours. Second semester. Two lectures weekly. Given in 1911-1912 and biennially thereafter. Prerequisite, permission of the instructor. Professor HENDERSON.

A discussion of the general principles underlying the subject of electro chemistry.

227. ANALYTICAL CHEMISTRY. Two hours. First semester. Two lectures weekly. Prerequisite, permission of the instructor. Professor FOULK.

A course of lectures on some topic of general interest to students in analytical chemistry. Subject for 1911-1912, "The Scientific Foundations of Analytical Chemistry." This course may be elected in different years by the same student.

231-232. CHEMICAL SEMINARY. One hour. The year.

All those engaged in giving instruction in the department, together with the fellows and graduate students, meet for an extended discussion of chemical problems of general interest.

235-236. RESEARCH WORK. Five to ten hours. The year. Library, conference, and laboratory work. Research work in organic chemistry is conducted under the supervision of Professor MCPHERSON and Associate Professor EVANS; in physical and general chemistry under Professor HENDERSON; in analytical chemistry under Professor FOULK and Dr. WILKINSON; in industrial and electro-chemistry under Associate Professor WITHROW.

ECONOMICS AND SOCIOLOGY

(Office, Room 211, University Hall)

PROFESSOR HAGERTY, PROFESSOR HAMMOND, ASSOCIATE PROFESSOR MCKENZIE, ASSISTANT PROFESSORS LOCKHART, GEPHART, AND HUNTINGTON, MR. REEDER, MR. MILLS, AND MISS SHEETS

I ECONOMICS

UNDERGRADUATE COURSE

131. ECONOMIC AND SOCIAL HISTORY OF ENGLAND AND THE UNITED STATES. Three credit hours. First semester. Open only to first and second year students. Associate Professor MCKENZIE.

132. Repetition of 131. Three credit hours. Second semester. Associate Professor McKENZIE.

133. ECONOMIC GEOGRAPHY. Three credit hours. First semester. Open only to first and second year students. Assistant Professor GEPHART.

134. Repetition of 133. Three credit hours. Second semester. Assistant Professor GEPHART.

135-136. PRINCIPLES OF ECONOMICS. Three credit hours. The year. Not open to first year students. Should precede all courses in Economics except 131, 132, 133, 134. Professor HAMMOND, Assistant Professors LOCKHART, GEPHART and HUNTINGTON.

139-140. ACCOUNTING. Two credit hours. The year. Prerequisite, registration in course 135-136. Assistant Professor HUNTINGTON.

An introduction to practical accounting, including the analysis and interpretation of business statements.

141. PUBLIC FINANCE. Two credit hours. First semester. Prerequisite, Economics 135-136. Assistant Professor LOCKHART.

Public expenditures; sources of revenue, with special reference to problems of taxation; public credit; the budget; financial administration.

142. FINANCIAL HISTORY OF THE UNITED STATES. Two credit hours. Second semester. Prerequisite, Economics 135-136. Assistant Professor LOCKHART.

A study of the fiscal and monetary history of the country from colonial times to the present, with special reference to federal taxation, loans, and financial administration, currency legislation, and the development of banking institutions.

143. BUSINESS LAW. Three credit hours. First semester. Preceded or accompanied by courses 135-136. Assistant Professor HUNTINGTON.

A study of the leading legal principles of interest to the business man to be found in the law of contracts in general agency, partnerships, corporations, personal and real property, suretyship and guaranty, insurance, the estates of decedents, etc.

145-146. SENIOR SEMINAR IN ECONOMICS. Two credit hours. The year. A course of individual investigation and class discussion of practical economic problems. Recommended to students who have had at least two years work in Economics. Open to students who have obtained permission of the instructor. Professor HAMMOND.

UNDERGRADUATE AND GRADUATE COURSES

152. BUSINESS STATISTICS. Three credit hours. Second semester. Prerequisite, Economics 135-136. Assistant Professor HUNTINGTON.

The use of statistics in commercial and industrial enterprises, the work of various United States Government Bureaus engaged in collecting and presenting such statistics, as the Bureau of Corporations, the Bureau of the Census, the Bureau of Manufactures, etc., and practice in compiling and preparing statistics from their reports and other sources.

153. MONEY AND CURRENCY. Three credit hours. First semester. Prerequisite, Economics 135-136. Assistant Professor LOCKHART.

The relation of money to prices; monetary systems; bimetalism, the gold standard, government and bank paper money; banking history and legislation, with special reference to note issues.

154. BANKING AND THE MONEY MARKET. Three credit hours. Second semester. Prerequisite, Economics 153. Assistant Professor LOCKHART.

The organization and functions of banks and other financial institutions; the mechanism of the money and investment markets; the rate of discount; investments.

155. MUNICIPAL ECONOMICS AND FINANCE. Three credit hours. First semester. Prerequisite, Economics 135-136. Assistant Professor LOCKHART.

The growth of cities and its effects on their economic and social activities; private versus public ownership and operation of public utilities; city finances.

*156. TAXATION. Three credit hours. Second semester. Prerequisite, Economics 141. Assistant Professor LOCKHART.

An advanced course dealing chiefly with American tax systems and problems; the reform of the general property tax; corporation and business taxes; inheritance and income taxes, etc.

157. LIFE INSURANCE. Two credit hours. First semester. Prerequisite, Economics 135-136. Assistant Professor GEPHART.

Principles of life insurance and its economic and social significance; kinds of companies, policies; methods of organization, operation and regulation. Health, accident, industrial and old-age insurance.

*Not given in 1911-1912.

158. PROPERTY INSURANCE. Two credit hours. Second semester. Prerequisite, Economics 135-136. Assistant Professor GEPHART.

Fire, marine, liability, and miscellaneous insurance. Historical development and practice of various forms of property insurance. A careful study of each class of companies, their risks, politics, methods of operation and regulation by state.

*159. COMMERCIAL DEVELOPMENT. Three credit hours. First semester. Prerequisite, Economics 135-136. Assistant Professor GEPHART.

A study of the basis and development of commerce in the chief commercial nations. Present and prospective leadership among commercial nations and the factors contributing to it. Regulation of commerce by the state.

*160. COMMERCIAL POLICIES. Three credit hours. Second semester. Prerequisite, Economics 135-136. Assistant Professor GEPHART.

Theories of international trade, mercantilism, free-trade and protection; a study of the tariff of the United States with a comparative study of those of the leading commercial nations. Balance of trade, domestic and foreign exchange.

161. MERCANTILE INSTITUTIONS IN DOMESTIC TRADE. Three credit hours. First semester. Prerequisite, Economics 135-136. Professor HAGERTY.

The evolution and organization of mercantile institutions with a study of the methods of selling and distributing goods, including selling agencies, traveling salesmen, produce exchanges, commercial credit, mercantile agencies, etc.

162. FOREIGN MARKETS AND THE CONSULAR SYSTEM. Three credit hours. Second semester. Prerequisite, Economics 135-136. Assistant Professor GEPHART.

The significance of exports and imports. The work of the state in furthering commerce. The contest for markets and the methods of securing them. An analysis of the commerce of the United States and the leading commercial nations.

163. CORPORATION ECONOMICS. Three credit hours. First semester. Prerequisite, Economics 135-136. Professor HAMMOND.

The development of corporations. Corporate organizations, management, and finance. Forms and methods of industrial consolidations. Monopolistic tendencies in industry. Public regulation of industrial monopolies.

*Not given in 1911-1912.

*164. INDUSTRIAL ORGANIZATION. Three credit hours. Second semester. Prerequisite, Economics 135-136. Professor HAMMOND.

The development and internal organization of modern manufacturing enterprises. The forces determining their location. Factory administration. Welfare work. Lectures, reports and visits of inspection to local plants.

*165. LABOR LEGISLATION. Three credit hours. First semester. Prerequisite, Economics 135-136. Professor HAMMOND.

A study of the labor laws of the United States and the principal foreign countries with reference to their social and economic causes and effects.

*166. ORGANIZATION AND REMUNERATION OF LABOR. Three credit hours. Second semester. Prerequisite, Economics 135-136. Professor HAMMOND.

History of the labor movement. Trade union policies and methods. Employers' organizations. Collective bargaining. Industrial arbitration. Attempts to modify the wage system. Time, piece, and progressive wages. Profit sharing, labor co-partnership and co-operation.

*167. RAILWAY ECONOMICS. Three credit hours. First semester. Prerequisite, Economics 135-136. Professor HAMMOND.

The development of means of transportation. Railway growth and consolidation. Railway rate theories and practice. Railway commissions and public control. Government ownership of railroads.

*168. RAILWAY ORGANIZATION AND ADMINISTRATION. Three credit hours. Second semester. Prerequisite, Economics 135-136. Professor HAMMOND.

The organization of a modern railway system and the functions of the various departments. Rate making and the work of the traffic department. The work of the industrial commissioner. Railway finance and statistics. The relation of the railroads to the accounting division of the Interstate Commerce Commission.

169-170. ECONOMIC BIBLIOGRAPHY. One credit hour. The year. Prerequisite, Economics 135-136. Mr. REEDER.

Use of catalogues, magazine indexes, society publications, state and municipal documents with special reference to economic subjects. Lectures and reference problems.

*Not given in 1911-1912.

171. ADVANCED ACCOUNTING. Three credit hours. First semester. Prerequisite, Economics 137-138. Assistant Professor HUNTINGTON.

The principles of modern accounting, including a study of some of its problems, especially those connected with the balance sheet and the income statement, as the valuation of assets and the treatment of good will, depreciation, capital stock, profits, surplus, reserves, etc.

*172. COST ACCOUNTING. Three credit hours. Second semester. Prerequisite, Economics 171. Time to be arranged. Assistant Professor HUNTINGTON.

The purpose of cost accounting, the relation of the various elements of cost, and the methods of recording them in various types of industries.

174. AUDITING. Three credit hours. Second semester. Prerequisite, Economics 171. Assistant Professor HUNTINGTON.

The duties and responsibilities of an auditor or certified public accountant, the various kinds of audits and their value, the nature and value of the auditor's report. The preparation of audit reports and the working out of difficult accounting problems.

175. PRINCIPLES OF ADVERTISING. Two credit hours. First semester. A study of advertising, its laws, its economic importance, advertising costs, methods of advertising and follow up systems; the work of the general advertiser, the advertising manager, and the general advertising agency.

II. SOCIOLOGY

UNDERGRADUATE WORK

101-102. PRINCIPLES OF SOCIOLOGY. Three credit hours. The year. Professor HAGERTY and Associate Professor McKENZIE.

A study of the fundamental principles of sociology. Text-book, lectures, collateral reading, and individual investigations.

UNDERGRADUATE AND GRADUATE WORK

103. THE INDIAN. Three credit hours. First semester. Prerequisite, Sociology 101-102. Associate Professor McKENZIE.

A study of primitive man. Readings from reports of the United States Bureau of Ethnology and other sources. A study of the modern Indian problem.

*Not given in 1911-1912.

*104. THE IMMIGRANT. Three credit hours. Second semester. Prerequisite, Sociology 101-102. Associate Professor McKENZIE.

The causes and sources of migration, provisions for transportation, immigration laws, and the assimilation of nationalities.

*105. THE NEGRO. Three credit hours. First semester. Prerequisite, Sociology 101-102. Miss SHEETS.

A study of tropical man and the results of his transference to a temperate clime. Negro health, crime, education, and progress in the United States.

107. THE FAMILY. Three credit hours. First semester. Prerequisite, Sociology 101-102. Miss SHEETS.

A study of the matrimonial institutions of primitive society and the evolution of the family through the Greek, Roman, Medieval and Modern Periods.

108. PRIMITIVE MAN IN OHIO. One credit hour. Second semester. Time to be arranged. Prerequisite, Sociology 101-102. Mr. MILLS.

A study of the geological evidence of man's antiquity in Ohio. A detailed study of mounds, earthworks, and remains; environment and stages of culture; late discoveries in the mounds and village sites in Ohio. Illustrated by specimens from the Archaeological Museum.

*109. MODERN CHARITY. Three credit hours. First semester. Prerequisite, Sociology 101-102. Professor HAGERTY.

The treatment of dependent and defective classes. A history of poor relief in Great Britain and the United States. Outdoor and indoor relief, both public and private. Organized charity, the treatment of the vagrant, the care of dependent children, the insane, the feeble minded, the epileptic, and the education of the blind and the deaf.

*110. CRIMINOLOGY. Three credit hours. Second semester. Prerequisite, Sociology 101-102. Professor HAGERTY.

A study of crime and the social and physiological causes of crime. An historical study of prison systems and methods. The indeterminate sentence, the probation, and the parole laws. The Juvenile Court and its agencies to prevent crime.

*Not given in 1911-1912.

111. POVERTY. Three credit hours. First semester. Prerequisite, Sociology 101-102. Professor HAGERTY.

A study of the personal and social causes of poverty and dependency. Exploitation, maladjustment, housing conditions, tenement legislation, etc. The maintenance of a reputable standard of living.

112. PREVENTATIVE PHILANTHROPY. Three credit hours. Second semester. Prerequisite, Sociology 109 or 111. Professor HAGERTY.

A study of preventative institutions, and methods for the promotion of thrift, and for sanitation and public health; parks, playgrounds, substitutes for the saloon, social settlements, child labor legislation, industrial education, building codes, etc.

113. HISTORIC SOCIALISM AND SOCIAL REFORM. Three credit hours. First semester. Prerequisite, Sociology 101-102, or Economics 135-136. Associate Professor McKENZIE.

History and theory of communism, socialism and reform to the middle of the nineteenth century.

114. RECENT SOCIALISM AND SOCIAL REFORM. Three credit hours. Second semester. Prerequisite, Sociology 101-102, or Economics 135-136. Associate Professor McKENZIE.

Marx and his contemporaries. Present movements in the United States and abroad. The social function of the church.

115-116. FIELD WORK IN SOCIOLOGY. Two credit hours. One or two semesters. Time to be arranged. Open only to graduates and seniors who have had two years work in Sociology. Professor HAGERTY.

A study of the work of charity organization, the Juvenile Court or the Social Settlement, through practical experience in these organizations. This course involves the preparation of papers.

117-118. SEMINAR IN SOCIOLOGY. Two credit hours. The year. Open to graduates and advanced undergraduates. Professor HAGERTY.

120. THE HOUSEHOLD. Three credit hours. Second semester. Miss SHEETS.

The family as an economic institution. The evolution of household industries and its effect upon the home. Organization of the household with reference to the functions of man and woman.

EXCLUSIVELY FOR GRADUATES

201-202. ADVANCED SOCIOLOGY. Two hours. The year. Prerequisite, Sociology 101-102. Assistant Professor McKENZIE.

A rapid review of social theories from Plato to Spencer, with a more detailed study of the writings of recent sociologists.

203-204. DISTRIBUTION OF WEALTH. Three hours. The year. Professor HAGERTY.

A study of the development of economic theories concerning the distribution of the social product among the producers from the time of the mercantilists to the present time. The works of the leading writers of each period are read and discussed in class.

*205-206. THE STATE IN ITS RELATION TO INDUSTRY AND LABOR. Two hours. The year. Professor HAMMOND.

A study of the trend of economic and legal thought concerning the part which the state should take in regulating and developing industry and labor. The results of the policy of non-interference and of the later tendency towards regulation in various countries, particularly those of Anglo-Saxon peoples.

207-208. GRADUATE SEMINAR IN ECONOMICS AND SOCIOLOGY. Two hours. The year. Time to be arranged.

Graduate students and the instructors in the department will meet regularly for the presentation of the results of investigation, the review of current economic and sociological literature, and the discussion of current problems.

ENGLISH

(Office, Room 202 English Building)

PROFESSORS DENNEY, TAYLOR, MC KNIGHT, ASSOCIATE PROFESSOR GRAVES,
ASSISTANT PROFESSORS DUNCAN, BLANCHARD, COOPER,
HARRINGTON, BECK.

FOR UNDERGRADUATES

101. PARAGRAPH WRITING. DESCRIPTION AND NARRATION. Two credit hours. First semester. Text: Scott and Denney's Paragraph-Writing. All instructors.

102. Repetition of course 101. Second semester. Assistant Professor BECK.

104. PARAGRAPH WRITING. EXPOSITION AND ARGUMENTATION. Two credit hours. Second semester. Prerequisite, English 101. Same hours as for course 101. (Course 104 is also offered in the Summer Session.) All instructors.

*Not given in 1911-1912.

107. ADVANCED DESCRIPTION AND NARRATION. Two credit hours. First semester. Prerequisite, English 101. Associate Professor GRAVES.

108. ADVANCED EXPOSITION AND CRITICISM. Two credit hours. Second semester. Prerequisite, English 101. Associate Professor GRAVES.

111-112. ADVANCED ARGUMENTATIVE WRITING. Two credit hours. The year. Prerequisite, English 104. Assistant Professor DUNCAN.

113. NEWS COLLECTING AND NEWS WRITING. Two credit hours. First semester. Prerequisite, English 101 and 104. Assistant Professor HARRINGTON.

Attention given to vocabulary and style, with drill in the gathering of news through exercises and assignments. The work of the reporter will be considered in connection with a discussion of the organization of the newspaper. Students will be sent to cover actual stories throughout the city. Newspaper men will address the class.

114. NEWSPAPER CORRESPONDENCE. Two credit hours. Second semester. Assistant Professor HARRINGTON.

A continuation of course 113 with the addition of newspaper correspondence and feature writing.

115. NEWSPAPER PRACTICE. Three credit hours. First semester. Prerequisite, English 113-114. Assistant Professor HARRINGTON.

An advanced course intended for students who are doing work on the University or city papers. These students will be given various assignments. Practice in the writing of headlines, editing of newspaper copy, making-up and reading of proof will be included in the course. Weekly consultations with the instructor.

116. NEWSPAPER PRACTICE. Three credit hours. Second semester. Assistant Professor HARRINGTON.

A continuation of course 115 with the addition of work in the writing and display of advertising matter. Prerequisite, English 113-114.

117. EDITORIAL WORK. Two credit hours. First semester. Prerequisite, English 113-114, 115, 116. Assistant Professor HARRINGTON.

The planning and writing of magazine and trade-journal articles will be treated in this course, as well as the special problems of technical journalism.

118. NEWSPAPER PROBLEMS. Two credit hours. Second semester. Prerequisite, English 117. Assistant Professor HARRINGTON.

The evolution of the newspaper will be treated in some detail, and attention will be given to a comparative study of the newspapers of today and to the discussion of newspaper problems, including the work of the country editor.

121. PRINCIPLES OF PUBLIC SPEAKING. Two credit hours. First semester. Prerequisite, English 101 and 104. Assistant Professor BLANCHARD.

122. DEBATING. Two credit hours. Second semester. Prerequisite, English 101 and 104. Assistant Professor BLANCHARD.

123. ADVANCED DEBATING. Two credit hours. First semester. Prerequisite, English 122. Assistant Professor BLANCHARD.

124. EXTEMPORE SPEAKING. Two credit hours. Second semester. Prerequisite, English 122. Assistant Professor BLANCHARD.

127. HISTORY OF THE ENGLISH LANGUAGE. Two credit hours. First semester. No prerequisite course. Designed for students without a knowledge of Old and Middle English. The development of the language is traced by means of illustrative specimens. Attention is paid to the history of spelling and pronunciation, the changes in the meaning of words, and the origin of modern idioms. Professor McKNIGHT.

128. ENGLISH WORDS. Two credit hours. Second semester. No prerequisite course. Text-book: Greenough and Kittredge's Words and Their Ways in English Speech. Professor McKNIGHT.

129. THE ENGLISH BIBLE. NARRATIVE FORMS. Two credit hours. First semester. No prerequisite course. Assistant Professor DUNCAN.

130. THE ENGLISH BIBLE. POETIC FORMS. Two credit hours. Second semester. No prerequisite course. Assistant Professor DUNCAN.

131. SURVEY OF ENGLISH LITERATURE. Three credit hours. First semester. No prerequisite course. Associate Professor GRAVES, Assistant Professors DUNCAN, COOPER, BECK.

The outline of the history of English Literature will be given by lecture. The following will be read: Shakespeare's Henry V, As You Like It, Coriolanus; Milton's Paradise Lost, Books I, II; Bunyan's Pilgrim's Progress, Pt. I; Dryden's Odes and Translations from Chaucer; Addison's Essays; Pope's Rape of the Lock; Gold-

smith's Essays and Plays; Scott's Quentin Durward; Byron's *Ma-zepa*; Tennyson's *Princess*; Carlyle's *Essay on Biography*.

European History 103-104 (Narrative History) is recommended in connection with this course.

132. Repetition of 131. Associate Professor GRAVES.

133. SURVEY OF AMERICAN LITERATURE. Three credit hours First semester. No prerequisite course. Professor TAYLOR.

The outline of the history will be given by lecture. The reading and criticism will be of Irving, Cooper, Bryant, and Poe; of Hawthorne, Emerson, Whittier, Longfellow, and Lowell; and of Walt Whitman, with a brief survey of recent literature.

134. Repetition of 133. Professor TAYLOR, Assistant Professors DUNCAN, BECK.

135. THE AGE OF ELIZABETH. Two credit hours. First semester. Prerequisite, course 131 or 132. Assistant Professor COOPER.

136. THE AGE OF MILTON. Two credit hours. Second semester. Prerequisite, English 131 or 132. Assistant Professor COOPER.

137. EIGHTEENTH CENTURY LITERATURE (POETRY, ESSAYS, LETTERS). Three credit hours. First semester. Prerequisite, English 131 or 132. Professor DENNEY.

Reading in Burke, Coleridge, Lamb, Landor, Hazlitt, and De-Quincey.

138. NINETEENTH CENTURY ESSAYISTS. Three credit hours. Second semester. Prerequisite, English 131 or 132. Professor DENNEY.

Reading in Carlyle, Ruskin, Arnold, Newman, Pater, and Stevenson.

139. THE ROMANTIC MOVEMENT. Three credit hours. First semester. Prerequisite, English 131 or 132. Assistant Professor DUNCAN.

A study of the rise and progress of the new poetic movement during the last years of the eighteenth and the earlier years of the nineteenth century. The poetry of Thomson, Cowper, Gray, Blake, Collins, and Burns.

140. WORDSWORTH AND HIS PERIOD. Three credit hours. Second semester. Prerequisite, English 131 or 132. Assistant Professor DUNCAN.

The poetry of Wordsworth, Byron, Shelley, and Keats.

141. TENNYSON. Three credit hours. First semester. Prerequisite, English 131 or 132. Professor TAYLOR.

The whole of Tennyson will be read and criticized and rapid consideration given to Fitzgerald, Arnold, Swineburne, Rossetti, and Morris.

142. BROWNING. Three credit hours. Second semester. Prerequisite, English 131 or 132. Professor TAYLOR.

The whole of Browning will be read and criticized, with some consideration of the poetry of George Meredith, and of their influence on recent literature.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

151. OLD ENGLISH. Three credit hours. First semester. Professor McKNIGHT.

Old English prose and poetry as found in Bright's Anglo-Saxon Reader.

152. OLD AND MIDDLE ENGLISH. Three credit hours. Second semester. Professor McKNIGHT.

Bewoulf, followed by selections illustrating the language and literature from the Norman Conquest to the time of Chaucer.

153. CHAUCER. Two credit hours. First semester. Professor McKNIGHT.

Chaucer's principal works are read. Brief consideration is given to Chaucer's contemporaries, Gower, Wycliffe, Langland, and the author of Sir Gawayne and The Grene Knight.

154. ENGLISH FICTION TO RICHARDSON. Two credit hours. Second semester. Professor McKNIGHT.

A rapid survey, by means of modern versions, of early epic poetry and medieval romance, followed by a study of the types of novel in the sixteenth and seventeenth centuries.

155. THE NOVEL. RICHARDSON TO SCOTT. Three credit hours. First semester. Professor TAYLOR.

The history of the development of the novel in the period is given by lecture. Reading and criticism of Richardson, Fielding, Sterne, Jane Austen, and Scott.

156. THE NOVEL. DICKENS TO MEREDITH. Three credit hours. Second semester. Professor TAYLOR.

The history and development of the novel in this period is given by lecture. Reading and criticism of Dickens, Thackeray, George Eliot, and George Meredith.

157. VERSIFICATION. Three credit hours. First semester. Associate Professor GRAVES.

The theory of verse structure with a history of the principal English rhythms, and practice in verse composition.

158. THE SHORT STORY. Three credit hours. Second semester. Associate Professor GRAVES.

Lectures on structure and form in the short story, with class reports on assigned readings, and practice in story writing.

165. MYSTERIES, MORALITIES AND INTERLUDES. Two credit hours. First semester. Professor McKNIGHT.

Manly's Specimens of Pre-Shakespearean Drama is made the basis of this course. Outside study in the complete collections is also prescribed.

166. THE DRAMA FROM 1580 TO 1642 (EXCLUSIVE OF SHAKESPEARE). Two credit hours. Second semester. Professor McKNIGHT.

One or two plays of each of the principal contemporaries and immediate successors of Shakespeare; lectures on the history of the drama in this period.

167. SHAKESPEARE. HISTORIES AND TRAGEDIES. Three credit hours. First semester. Professor DENNEY.

All of the plays are read with a view to complete criticism.

168. SHAKESPEARE. COMEDIES AND ROMANCES. Three credit hours. Second semester. Professor DENNEY.

All of the plays are read with a view to complete criticism.

169. MODERN ENGLISH DRAMA, 1660-1802. Two credit hours. First semester. Assistant Professor COOPER.

Representative plays of the principle writers are read; lectures on the history of the drama in this period.

170. MODERN ENGLISH DRAMA, NINETEENTH CENTURY. Two credit hours. Second semester. Assistant Professor COOPER.

The reading of representative plays is accompanied by lectures on the history of the drama in the nineteenth century. Some attention is paid to American plays.

EXCLUSIVELY FOR GRADUATES

201. THE BEGINNING OF THE SHORT STORY. Two hours. First semester. Associate Professor GRAVES.

An investigation of types of the short story in English from the Middle Ages to the present.

202. THE LYRIC. Two hours. Second semester. Associate Professor GRAVES.

A study of the characteristics of lyrical poetry with a history of the lyric in English literature.

203. PIERS PLOWMAN. Two hours. First semester. Professor McKNIGHT.

A study of the form and content of the three versions of the Vision Concerning Piers Plowman, and of the pictures of contemporary life afforded. Attention is paid to the recent discussion concerning authorship.

204. THE AUTHOR OF SIR GAWAYNE AND THE GRENE KNIGHT. Two hours. Second Semester. Professor McKNIGHT.

An attempt to become acquainted with the personality of this anonymous writer and to arrive at a conclusion concerning his much debated purpose in his poem, The Pearl.

205. HISTORY OF CRITICAL THEORY. Two hours. First semester. Professor DENNEY.

Saintsbury's *Loci Critici* is used as the basis of individual investigations.

206. PROBLEMS IN THE DRAMA. Two hours. Second semester. Professor DENNEY.

Lectures on the history of dramatic theory. Each student is assigned a specific problem for individual research and weekly report.

207. MEREDITH, HARDY, JAMES. Two hours. First semester. Professor TAYLOR.

208. POETRY AND THE DRAMA SINCE 1880. Two hours. Second semester. Professor TAYLOR.

ENTOMOLOGY

(See Zoology and Entomology)

EUROPEAN HISTORY

(Office, Room 204, University Hall)

PROFESSOR SIEBERT, ASSOCIATE PROFESSOR McNEAL, ASSISTANT PROFESSOR PERKINS*

101. MEDIEVAL HISTORY. Three credit hours. First semester. Professor SIEBERT, Associate Professor McNEAL, Assistant Professor PERKINS.

102. MODERN HISTORY FROM 1500 A. D. Three credit hours. Second semester. Professor SIEBERT, Associate Professor McNEAL, Assistant Professor PERKINS.

103-104. HISTORY OF ENGLAND. Three credit hours. The year. Open to second, third and fourth-year students without prerequisite. Assistant Professor PERKINS.

General course intended for all students wishing to know something of the subject, also for those specializing in English Literature or American History, and for those preparing to teach history in secondary schools.

105. HISTORY OF GREECE. Three credit hours. First semester. Open to second, third and fourth-year students without prerequisite. Associate Professor McNEAL.

106. HISTORY OF ROME. Three credit hours. Second semester. Open to second, third and fourth-year students without prerequisite. Associate Professor McNEAL.

107. THE DARK AGES, 400 A. D. TO 814 A. D. Two credit hours. First semester. Prerequisite, courses 101 and 102.

108. THE FEUDAL AGE, 814 TO 1250 A. D. Two credit hours. Second semester. Prerequisite, courses 101 and 102.

109. THE AGE OF THE RENAISSANCE, 1250 TO 1500 A. D. Three credit hours. Second semester. Prerequisite, courses 101 and 102. Professor SIEBERT.

This course traces the rise of our modern civilization, treating of the revival of letters and art, the spread of education, the early developments of modern science, the geographical discoveries, and the political, social and ecclesiastical changes which occurred during the same period.

110. THE PERIOD OF THE REFORMATION. Three credit hours. Second semester. Prerequisite, courses 101 and 102. Professor SIEBERT.

Reformational movements from the time of the death of Dante (1321) to the Council of Trent (1562).

111. THE FRENCH REVOLUTIONARY AND NAPOLEONIC PERIODS, 1789-1815. Three credit hours. First semester. Prerequisite, courses 101 and 102. Assistant Professor PERKINS.

112. EUROPE IN THE NINETEENTH CENTURY. Three credit hours. Second semester. Prerequisite, courses 101 and 102. Assistant Professor PERKINS.

Especial emphasis on the past fifty years and the interpretation of recent events in Europe.

113-114. CONSTITUTIONAL HISTORY OF ENGLAND. Three credit hours. The year. Prerequisite, courses 101 and 102. Professor SIEBERT.

Intended for students especially interested in the institutional side of English and American History, and in Political Science, and for those taking the Arts-Law course, or expecting to enter the law school.

115. EUROPE AND AFRICA, INDIA AND AUSTRALIA. Two credit hours. First semester. Prerequisite, courses 101 and 102. Professor SIEBERT.

116. EUROPE AND TURKEY. THE EASTERN QUESTION. Two credit hours. Second semester. Prerequisite, courses 101 and 102. Professor SIEBERT.

*117. NORTHEASTERN EUROPE. Two credit hours. First semester. Prerequisite, courses 101 and 102. Professor SIEBERT.

*118. EUROPE AND ASIA. THE FAR EASTERN QUESTION. Two credit hours. Second semester. Prerequisite, courses 101 and 102. Professor SIEBERT.

119-120. HISTORY OF GERMANY. Two credit hours. The year. Open to second, third or fourth-year students without prerequisite. Assistant Professor PERKINS.

The emphasis will be laid on the modern period beginning with the Renaissance and the Protestant Revolt. This course is intended primarily for students of German.

*Not given in 1911-1912.

EXCLUSIVELY FOR GRADUATES

203-204. SEMINAR IN MODERN EUROPEAN HISTORY. Two hours. The year. Open only by permission of instructor. Time to be arranged. Professor SIEBERT.

201-202. SEMINAR IN MEDIEVAL HISTORY. Reading of the sources of some period in the Middle Age. Two hours. The year. Open only by permission of instructor. Time to be arranged. Associate Professor MCNEAL.

FRENCH

(See Romance Languages)

GEOLOGY

(Office, Room 1, Orton Hall)

PROFESSOR PROSSER, PROFESSOR BOWNOCKER, ASSISTANT PROFESSOR HILLS, MR. MORSE.

FOR UNDERGRADUATES

101-102. PHYSIOGRAPHY. Three credit hours. The year. Open to freshmen and sophomores only.

Three field trips are made Saturdays in each semester, each trip taking the place of a recitation. During January, February and March, the Monday recitation is replaced by laboratory work, time to be arranged. Professor BOWNOCKER, Assistant Professor HILLS.

Physiographic features on the earth's surface; the ocean, and the atmosphere. Recitations, lectures, and assigned readings, illustrated with models and lantern views.

103. INORGANIC GEOLOGY. Three credit hours. First semester. Professor BOWNOCKER.

Introductory course. Petrographical, structural, and dynamical geology. Study of common minerals and rocks, and geological maps. Occasional field trips on Saturday morning. The course is illustrated with lantern views, models and museum materials.

104. HISTORICAL GEOLOGY. Three credit hours. Second semester. Lectures. Prerequisite, Geology 103. Professor PROSSER.

A general course in paleontological and stratigraphical geology, illustrated by lantern views, maps, and specimens. The development of organisms and the classification and distribution of the geological

formations, especially those of Ohio, are considered. After the first of April some of the Friday lectures will be replaced by field trips on Saturdays.

[Courses 103 and 104 are considered as forming a general course in geology which is required before advanced work in physiography, historical or inorganic geology.]

FOR ADVANCED UNDERGRADUATES AND GRADUATES

105. FIELD GEOLOGY. Three to five credit hours. First semester. Time to be arranged. Lectures, assigned reading, field trips and laboratory work. Field trips generally on Saturdays while weather permits, laboratory work for the remainder of the semester. Prerequisite, Geology 103-104. Professor PROSSER and Mr. MORSE.

Study of the geological formations readily accessible from Columbus, and identification of fossils characteristic of different formations. This course is intended to acquaint the student with the ordinary methods of field investigation, and involves the collection and identification of specimens, the measurement of geological sections and the preparation of a report describing the region studied. Occasionally longer geological excursions will be arranged. The one proposed for 1911 will be to Niagara Falls and Buffalo, where the formations from the Medina of the Ordovician at Lewiston up to the Portage of the Devonian on the shore of Lake Erie will be studied.

106. GLACIAL GEOLOGY. Three credit hours. Second semester. Time to be arranged. Prerequisite, Geology 103-104. Professor BOWNOCKER.

A study of the glacial geology of North America. The first half of the semester will be given to lectures, assigned readings, and map work. The second half, largely to field work and the preparation of reports.

107-108. PALEONTOLOGY. Two to five credit hours. The year. Laboratory open afternoons, 1 to 4, and on certain days in the morning. Prerequisite, Geology 103-104. Professor PROSSER and Mr. MORSE.

Careful training in systematic classification which may be used in the philosophical study of the development of plant and animal life, or as a means of becoming acquainted with the fauna and flora that characterize the various geological formations. At first the student devotes some time to conchology, studying recent shells in which the characters used in classification are well preserved, and after this preliminary work, fossils are studied. Fossils afford the

most reliable data for identifying and correlating geological formations, and the critical study of faunas is a field especially adapted to independent research. Laboratory, museum, and field work.

109-110. MICROSCOPICAL PETROGRAPHY. Two to five credit hours. The year. Time to be arranged. Prerequisite, Chemistry, Mineralogy, and Geology 103-104. Professor BOWNOCKER.

Optical crystallography, with practical determination of rock forming minerals, macroscopically and microscopically. Study of the igneous rocks in the hand specimen and thin section. The preparation of thin sections.

111-112. ADVANCED PHYSIOGRAPHY. Three to five credit hours. The year. Time to be arranged. Prerequisite, Geology 101-102, and 103-104, or 103-104 concurrently. Assistant Professor HILLS.

Conferences and reports, reviews of literature, directed and independent excursions and laboratory work.

113-114. AREAL GEOLOGY. Two to five credit hours. The year. Field work fall and spring, laboratory work in winter. Laboratory open afternoons, 1 to 4. Prerequisite, Geology 103-104; 105-106, and 107-108 for Paleozoic group, and 101-102, 103-104, and 105-106 for Cenozoic group. Professor PROSSER and Assistant Professor HILLS.

Instruction in the methods of preparing geological maps and reports for both the Paleozoic and Cenozoic groups. Outcrops are traced in the field and a colored geological map is prepared, together with sections showing the geological structure.

115. ECONOMIC RESOURCES OF THE UNITED STATES. One credit hour. First semester. Must be taken in conjunction with Geology 167. Prerequisite, Geology 101-102 or 103-104, and Economics 135-136. Professor BOWNOCKER.

141-142. MINOR INVESTIGATIONS AND CURRENT LITERATURE. Two to five credit hours. The year. Time to be arranged. A study of special topics and current literature in geology. Assigned readings, conferences, and reports. (a) HISTORICAL GEOLOGY. Prerequisite, Geology 103-104 required. Geology 101-102 is recommended. Professor PROSSER. (b) INORGANIC GEOLOGY. Prerequisite, Geology 167. Professor BOWNOCKER. (c) PHYSIOGRAPHY. Prerequisite, Geology 101-102, 103, and 104. Assistant Professor HILLS.

166. PETROGRAPHY. Two credit hours. Second semester. Prerequisite, Geology 103, and Chemistry. Professor BOWNOCKER and Assistant Professor HILLS.

A study of hand specimens of igneous, metamorphic and sedimentary rocks. More than one-half of the time will be devoted to laboratory work.

167. ECONOMIC GEOLOGY. Three credit hours. First semester. Prerequisite, Geology 103-104. Professor BOWNOCKER.

The nature of ores, their classification and origin. The metallic ores of the United States, their distribution, abundance, modes of occurrence, and origin. The non-metals, coal, oil, gas, clay, lime, cement, building stones, etc. In the discussion of the non-metals, emphasis will be laid on the products of Ohio.

EXCLUSIVELY FOR GRADUATES

201-202. ADVANCED HISTORICAL GEOLOGY. Three to five hours. The year. Laboratory open afternoons, 1 to 4. Prerequisite, Geology 103-104, and 107-108. Professor PROSSER.

Advanced work in paleontology and stratigraphical geology.

203-204. RESEARCH WORK. Three to five hours. The year. Prerequisite, preceding courses in inorganic or historical geology. Field, laboratory, and library study is offered along three lines. Outline of work and time will be arranged with individual students. (a) STRATIGRAPHY AND PALEONTOLOGY. The investigations of some field problem in stratigraphy with laboratory and library study or of some special subject in paleontology. Professor PROSSER. (b) ECONOMIC GEOLOGY. The investigation of some field problem in petroleum, natural gas, coal, or salt. Professor BOWNOCKER. (3) PHYSIOGRAPHY. Field problems, experimental studies in the laboratory or investigations in the literature. Assistant Professor HILLS.

GERMANIC LANGUAGES AND LITERATURES

(Office, Room 317, University Hall)

PROFESSOR ———, ASSOCIATE PROFESSOR EISENLOHR, ASSISTANT PROFESSORS THOMAS AND BARROWS, MR. BUSEY.

FOR UNDERGRADUATES

101-102. ELEMENTARY GERMAN. Four credit hours. The year. Eight sections. All instructors.

The essentials of Grammar and the reading of easy German narrative prose.

103. INTERMEDIATE GERMAN. Four credit hours. First semester. Eight sections. Prerequisite, 101-102, or two entrance units. Not open to students who enter with four entrance units in German. All instructors.

Reading of, (a) a classical drama supplemented by discussions syntax; prose composition.

104. EASY CLASSICAL READING AND COMPOSITION. Four credit hours. Second semester. Five sections. Prerequisite, course 103, or three entrance units. Not open to students who enter with four entrance units.

Reading of, (a) a classical drama supplemented by discussions, and lectures on the structure of the drama, its characters, and its historical background; (b) other literature of the classical or romantic period; prose composition.

106. SCIENCE READING. Four credit hours. Second semester. Three sections. Prerequisite, course 103, or three entrance units.

Rapid reading of technical literature. This is preceded or accompanied by drill on word formation, word compounds, sentence structure. The object of the course is to enable the student to read German technical literature.

*107. RECENT FICTION AND PROSE COMPOSITION. Four credit hours. First semester. Prerequisite, course 104, or four entrance units.

Reading of prose by modern and contemporary authors, with one hour weekly of prose composition.

*108. MODERN DRAMA. Four credit hours. Second semester. Prerequisite, course 107, or 109.

A study of dramas by modern and contemporary authors.

*109. HISTORICAL FICTION AND PROSE COMPOSITION. Four credit hours. First semester. Prerequisite, course 104, or four entrance units.

Reading of prose with an historical background. One hour weekly of prose composition.

*110. HISTORICAL DRAMA. Four credit hours. Second semester. Prerequisite, course 107, or 109.

This course does not include the historical drama of the classical or romantic period.

111-112. PROSE COMPOSITION AND CONVERSATION. Two credit hours. The year. Two sections. Not open to freshmen. Can be elected only with the consent of the instructor. The work is conducted in German.

*Not given in 1911-1912.

Attention of students is called to course 119-120, History of Germany, offered by the Department of European History. Students who intend to make German their major work are especially urged to elect this course.

Courses 107 and 109 are of equal grade. They differ only in the field covered by each. This applies also to courses 108 and 110.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

121-122. ADVANCED PROSE COMPOSITION. Two credit hours. The year. Prerequisite, course 111-112, and open only by permission of the instructor. German is the language of the classroom.

125. FAUST. Three credit hours. First semester.

126. HISTORY OF GERMAN LITERATURE SINCE THE BEGINNING OF THE EIGHTEENTH CENTURY. Three credit hours. Second semester. The student is advised to defer the course until he has a fairly easy reading knowledge of German. Lectures and collateral reading.

127. FOLKSONG. Two credit hours. First semester. Prerequisite, course 104, 108, 110, or equivalents.

A study of the folksong as such and as a reflection of the customs, traditions and superstitions of the people; the reciprocal influence of Volkslied and Kunstlied.

128. LYRICS AND BALLADS. Two credit hours. Second semester. Not open to freshmen.

Poetry characteristic of the various periods from the seventeenth century to the present day.

129. THE CLASSICAL PERIOD. Three credit hours. First semester. Prerequisite, course 104, 108, 110, or equivalent.

Lectures and reading. Lessing, Herder, Goethe, Schiller and their contemporaries.

130. EARLY NINETEENTH CENTURY LITERATURE. Three credit hours. Second semester. Prerequisite, course 104, 108, 110, or equivalents.

Kleist, Grillparzer, Hebbel, Laube, and their contemporaries. Lectures and reading.

137-138. SEMINAR. The subject for 1911-1912 will be Lessing. Two credit hours. The year. Time to be arranged.

139. GOTHIC. Two credit hours. First semester. Time to be arranged.

140. OLD HIGH GERMAN. Two credit hours. Second semester. Time to be arranged.

141. PHONETICS. Two credit hours. First semester. Time to be arranged.

A study of speech sounds with special reference to German and English.

142. HISTORY OF THE GERMAN LANGUAGE. Two credit hours. Second semester. Time to be arranged. Lectures and collateral reading.

147. MIDDLE HIGH GERMAN. Two credit hours. First semester. Time to be arranged.

Introductory course with readings from Hartman von Aue, Walter von der Vogelweide, and other Minnesingers.

148. NIBELUNGENLIED AND PARZIFAL. Two credit hours. Second semester. Time to be arranged. Prerequisite, course 147.

Lectures on the Literature of the Middle High German period.

149. THE TEACHING OF GERMAN. Two credit hours. First semester. Can be elected only with the consent of the instructor. Time to be arranged.

A discussion of the methods and principles of teaching German in secondary schools, a study of grammars, text-books, etc. Lectures on modern German life.

EXCLUSIVELY FOR GRADUATES

201. WRITERS OF THE SIXTEENTH AND SEVENTEENTH CENTURIES. Two hours. First semester. Time to be arranged.

203-204. SPECIAL STUDIES IN MIDDLE HIGH GERMAN. One hour. The year. Time to be arranged.

205-206. GRADUATE SEMINAR. Two hours. The year. Time to be arranged.

207-208. ROMANTIC WRITERS. Two hours. The year. Time to be arranged.

GREEK LANGUAGE AND LITERATURE

(Office, Room 307, University Hall)

PROFESSOR SMITH, PROFESSOR HODGMAN, PROFESSOR ELDEN

101-102. ELEMENTARY GREEK. Four credit hours. The year. Professor ELDEN.

105. XENOPHON: The Memorabilia of Socrates; exercises in Greek Prose. HERODOTUS: selections; with studies in Greek History. Four credit hours. First semester. Prerequisite, course 101-102. Professor SMITH.

106. HERODOTUS, continued. HOMER: Odyssey, selections from Books I-IX. Four credit hours. Second semester. Prerequisite, course 105. Professor SMITH.

107. LYSIAS: Eight Orations; with studies in Attic Procedure. PLATO: Apology of Socrates. Three credit hours. First semester. Prerequisite, courses 105-106. Professor SMITH.

108. PLATO: Crito and Phædo. HOMER: Iliad, selections. Three credit hours. Second semester. Prerequisite, courses 105-107. Professor SMITH.

109. THUCYDIDES: Book I or Book VII. DEMOSTHENES: Olynthiacs. Two credit hours. First semester. Time to be arranged. Prerequisite, courses 105-106. Professor HODGMAN.

110. DEMOSTHENES: Philippics. THEOCRITUS: selections. Two credit hours. Second semester. Time to be arranged. Prerequisite, courses 105-108. Professor HODGMAN.

111. ATTIC DRAMA. Euripides: Alcestis; SOPHOCLES: (Oedipus) Tyrannus; with lectures on Scenic Antiquities. Two credit hours. First semester. Time to be arranged. Prerequisite, courses 105-108. Professor HODGMAN.

112. ATTIC DRAMA. Continuation of course 111; two plays. Two credit hours. Second semester. Time to be arranged. Professor HODGMAN.

113. EPIC POETRY: selections. ARISTOPHANES: The Birds. Two credit hours. First semester. Prerequisite, courses 105-108. Professor SMITH.

114. ARISTOPHANES: The Clouds. POST-CLASSICAL GREEK: Lucian. Two credit hours. Second semester. Prerequisite, courses 105-108. Professor SMITH.

115. ANCIENT ART. Lectures on Architecture and Sculpture. Two credit hours. First semester. No prerequisite course. Professor SMITH.

116. ANCIENT ART. Continuation of course 115. Two credit hours. Second semester. Professor SMITH.

*117. MEDIAEVAL ART. Lectures on Architecture and Sculpture. Two credit hours. First semester. No prerequisite course. Professor SMITH.

*118. MEDIAEVAL ART. Lectures on Sculpture and Painting. Two credit hours. Second semester. Professor SMITH.

Courses 117-118 are given biennially, alternating with courses 115-116. They will not be given again until 1912-1913.

119. GREEK PHILOSOPHY. Two credit hours. First semester. Prerequisite, courses 105-108. Professor SMITH.

120. STUDIES IN NEW TESTAMENT GREEK. Two credit hours. Second semester. Prerequisite, courses 105-108. Professor SMITH.

121-122. HISTORICAL GRAMMAR. One credit hour. The year. Time to be arranged. Prerequisite, courses 105-106. Professor HODGMAN.

123. LIFE AND LITERATURE OF THE GREEKS. Lectures on Private Life, and on Epic and Lyric Poetry. Two credit hours. First semester. Time to be arranged. No prerequisite course. Professor SMITH.

124. HISTORY OF GREEK LITERATURE. Continuation of course 123. Lectures on Dramatic Poets, Historians, Philosophers, and Orators. Two credit hours. Second semester. Time to be arranged. Professor SMITH.

Courses 123 and 124 are open to students without a knowledge of Greek.

HISTORY

(See American History and European History)

ITALIAN

(See Romance Languages)

LATIN LANGUAGE AND LITERATURE

(Office, Room 307, University Hall)

PROFESSOR DERBY, PROFESSOR HODGMAN, PROFESSOR ELDEN

101. CICERO: De Senectute and De Amicitia; HORACE: Odes. Four credit hours. First semester. Prerequisite, four units of preparatory Latin. Professors DERBY, HODGMAN and ELDEN.

*Not given in 1911-1912.

102. HORACE: Odes, or OVID: Metamorphoses; LIVY or SALLUST, or Prose Composition. Four credit hours. Second semester. Prerequisite, course 101. Professors DERBY, HODGMAN and ELDEN.

103. PLINY or CICERO: Selected Letters; CATULLUS or TACITUS. Three credit hours. First semester. Prerequisite, courses 101-102. Professors DERBY and HODGMAN.

104. LATIN COMEDY: PLAUTUS and TERENCE, three plays. Three credit hours. Second semester. Prerequisite, course 103. Professors DERBY and HODGMAN.

105. ROMAN SATIRE: HORACE, JUVENAL and PERSIUS. Two credit hours. First semester. Prerequisite, courses 101-104. Professor ELDEN.

106. THE ROMAN NOVEL: Petronius; SENECA; Selections. Two credit hours. Second semester. Prerequisite, courses 101-104. Professor HODGMAN.

Courses 105-106 are important for Juniors and Seniors.

107-108. ROMAN PRIVATE LIFE. One credit hour. The year. Prerequisite, courses 101-102. Professor DERBY.

109-110. QUIZ AND REVIEW. The year. One credit hour.

This course will discuss, chiefly by lecture and report, the elements of those subjects which are comprised under the general head of Latin Philology and are of value to every teacher of Latin.

111-112. ROMAN AND COMPARATIVE LITERATURE. One credit hour. The year. Professor ELDEN.

Course 111-112 consists of lectures and assigned reading on Roman Literature and its influence on modern writers. Open not only to students of Latin, but also to those without a knowledge of Latin who desire to become acquainted with the broader outlines of Roman Literature and its influence upon the literatures of France, Germany, and England.

113-114. PRO-SEMINAR. Three credit hours. The year. Professor ELDEN.

115-116. LATIN PROSE COMPOSITION. Three credit hours. The year. Professor HODGMAN.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

Before entering upon graduate work in this department, the student should have had, in addition to the usual preparatory course of four years, not less than three years of collegiate study of Latin.

The plan of study for the second degree (A. M.) with Latin as the major or minor subject, should not include more than one of the courses 107-116; as a rule, these courses should be taken by undergraduates.

The ability to use French or German works of reference, a good knowledge of ancient history and of English literature will be found especially useful. Greek 115-116 (Greek Art), and Greek 117-118 (Mediaeval Art), are recommended.

Students of Latin philology will find German 139 (Gothic) valuable.

Lines of reading and of investigation, supplementary to the regular graduate courses and necessary to a symmetrical knowledge of the language, literature, and life of the Roman people, will be required according to the needs of the individual students.

117. HISTORICAL LATIN GRAMMAR: Sounds and inflections. Two credit hours. First semester. Prerequisite, courses 101-104. Professor HODGMAN.

This course treats of pronunciation, ablaut, vowel and consonant changes—especially vowel weakening—accent, inflection, and other similar topics essential to the understanding of the principles which govern the development of the Latin language.

118. HISTORICAL LATIN GRAMMAR: Syntax. Two credit hours. Second semester. Prerequisite, courses 101-104. Professor ELDEN.

Lectures on the problems connected with the origin and developments of certain constructions in Latin syntax; a treatment along historical lines of the syntactic uses of the cases, modes, and tenses.

Courses 117-118 are deemed essential for those who make Latin a major or minor subject of study in graduate work, and are recommended for advanced undergraduate study.

119-120. ADVANCED LATIN COMPOSITION. One or two credit hours. The year. Time to be arranged. Prerequisite, courses 115-116. Professor HODGMAN.

Translation of English narrative and study of Latin idioms.

121. ROMAN PROSE AUTHORS: Cicero, Seneca, Quintilian, Suetonius, or Tacitus. Two to five credit hours. Time to be arranged. First semester.

122. ROMAN POETS: Plautus, Terence, Lucretius, Vergil, Ovid, Lucan, Statius, Martial, or Silius Italicus. Two to five credit hours. Time to be arranged. Second semester.

Courses 121-122 are designed to give an opportunity to read a considerable portion of the author chosen, and are open to advanced students only. At the option of the instructor, the study of one author may be continued during the year. Professors DERBY, HODGMAN and ELDEN.

EXCLUSIVELY FOR GRADUATES

201-202. ROMAN RELIGION. One hour. The year. Time to be arranged. Professor HODGMAN.

Lectures, and Fasti of Ovid.

*203-204. LATIN LITERATURE. One hour. The year. Professor ELDEN.

*205-206. ROMAN PUBLIC LIFE. One hour. The year.

A study, partly from the sources, of the growth of the Roman constitution, and of the methods of Roman administration.

*207-208. SEMINAR. Two hours. The year.

*209. LEGAL LATIN AND ROMAN LAW. Two hours. First semester.

*210. PLEBEIAN LATIN AND ROMAN LAW. Two hours. Second semester.

*211-212. LATIN PHILOLOGY. One hour. The year.

213-214. ELEMENTS OF EPIGRAPHY AND PALAEOGRAPHY. Two or three hours. The year. Time to be arranged. Professor DERBY.

Special topics related to the subjects named above may be pursued under supervision of the instructor, and graduate students, with consent of the department, may earn an additional credit hour in any course primarily for graduates. Such lines of reading and individual investigations will usually be supplementary to the regular graduate courses.

MATHEMATICS

(Office, Room 314, University Hall)

PROFESSORS BOHANNAN, MC COARD, SWARTZEL, KUHN, ASSOCIATE PROFESSOR ARNOLD, ASSISTANT PROFESSORS PRESTON, BAREIS,

MORRIS AND WEST, MISS RICKARD, MR. WEAVER.

Students intending to make Mathematics a specialty are advised to secure a reading knowledge of French, German and Italian by the beginning of the junior year.

*Not given in 1911-1912.

121. COLLEGE ALGEBRA AND TRIGONOMETRY. Three credit hours. First semester. Professors BOHANNAN, McCOARD, SWARTZEL, KUHN, Associate Professor ARNOLD.

122. PLANE TRIGONOMETRY AND ANALYTICAL GEOMETRY. Three credit hours. Second semester. Professors McCOARD, SWARTZEL, KUHN, Associate Professor ARNOLD.

123-124. PROBLEMS ON ALL PAST WORK. One credit hour. The year. Associate Professor ARNOLD.

127-128. ANALYTICAL GEOMETRY AND CALCULUS. Three credit hours. The year. Prerequisite, Mathematics 121, 122, 123-124, or 131, 132, 141-142. Professor BOHANNAN.

131. COLLEGE ALGEBRA AND TRIGONOMETRY. Five credit hours. First semester. Professors BOHANNAN, McCOARD, SWARTZEL, KUHN, Associate Professor ARNOLD, Assistant Professors PRESTON, BAREIS, MORRIS and WEST, Miss RICKARD, Mr. WEAVER.

132. PLANE TRIGONOMETRY AND ANALYTICAL GEOMETRY. Five credit hours. Second semester. Professors BOHANNAN, McCOARD, SWARTZEL, KUHN, Associate Professor ARNOLD, Assistant Professors PRESTON, BAREIS, MORRIS and WEST, Miss RICKARD, Mr. WEAVER.

141-142. CALCULUS. Five credit hours. The year. Prerequisite, Mathematics 121, 122, or 131, 132. Professors BOHANNAN, McCOARD, SWARTZEL, KUHN, Associate Professor ARNOLD, Assistant Professors BAREIS, MORRIS and WEST, Mr. WEAVER.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

Prerequisite, Differential and Integral Calculus.

161. DETERMINANTS. Three credit hours. First semester. Assistant Professor BAREIS.

162. THEORY OF EQUATIONS. Three credit hours. Second semester. Professor McCOARD.

163-164. PLANE AND SOLID ANALYTICAL GEOMETRY. Three credit hours. The year. Professor BOHANNAN.

165-166. ADVANCED CALCULUS. Three credit hours. The year. Assistant Professor MORRIS.

167-168. DIFFERENTIAL EQUATIONS. Three credit hours. The year. Professor SWARTZEL.

171. PROJECTIVE GEOMETRY. Three credit hours. First semester. Professor BOHANNAN.

172. NON-EUCLIDIAN GEOMETRY. Three credit hours. Second semester. Professor KUHN.

173-174. MODERN HIGHER ALGEBRA. Three credit hours. The year. Associate Professor ARNOLD.

177-178. THE MATHEMATICS OF INSURANCE AND INVESTMENTS. Two credit hours. The year. Professor KUHN.

179-180. THE THEORY OF STATISTICS. Two credit hours. The year. This course alternates with 177-178. Professor KUHN.

FOR GRADUATES

201-202. (a) INFINITE SERIES AND PRODUCTS; (b) THE FUNCTIONS OF A REAL VARIABLE; (c) CALCULUS OF VARIATIONS; (d) THE THEORY OF FUNCTIONS OF A COMPLEX VARIABLE; (e) ELLIPTIC FUNCTIONS; (f) POTENTIAL FUNCTION; (g) FOURIER'S SERIES AND SPHERICAL HARMONICS; (h) GROUPS; (i) THEORY OF NUMBERS; (j) HIGHER PLANE CURVES; (k) INVARIANTS; (l) DIFFERENTIAL GEOMETRY; (m) THE MATHEMATICAL THEORY OF ELECTRICITY AND MAGNETISM; (n) THE MATHEMATICAL THEORY OF LIGHT; (o) THE MATHEMATICAL THEORY OF SOUND; (p) THE HISTORY OF MATHEMATICS; (q) ADVANCED DIFFERENTIAL EQUATIONS; (r) MATHEMATICAL DEVELOPMENTS OF THE LAWS OF HUMAN THOUGHT. Professors BOHANNAN, McCOARD, SWARTZEL, KUHN, Associate Professor ARNOLD, Assistant Professors BAREIS, MORRIS, WEST.

MILITARY SCIENCE AND TACTICS

(Gymnasium and Armory)

CAPTAIN G. L. CONVERSE, U. S. A., RET.

Under the law of Congress establishing the University, it is required that instruction shall be given in military science and tactics, and the Trustees have directed that all male students except those in the College of Law, and such others as may be specially excused for physical disability or for having reached the age limit of twenty-five years, shall render two years of cadet service as a condition of graduation.

The Military Department is open five days during each week of each semester. Required of all students first and second year, unless excused by the Military and Gymnasium Board.

1. MILITARY DRILL. One credit hour. First semester. *M., Tu., W., Th., at 11 or 4.* Gallery practice daily, beginning about December 15.

2. MILITARY DRILL. One credit hour. Second semester. Drill Regulations and Guard Manual, *M., Tu., W., Th., at 11 or 4*, until April 1. Gallery practice daily, until April 1.

PHILOSOPHY

(Office, Room 321, University Hall)

PROFESSOR LEIGHTON, PROFESSOR DAVIES
FOR UNDERGRADUATES

101. INTRODUCTION TO PHILOSOPHY. First semester. Three credit hours. Open to first year students. Professor LEIGHTON.

The meaning and scope of philosophy, its typical problems, its relations to the special sciences, morality, art, the state, and religion.

102. INTRODUCTORY LOGIC. Second semester. Three credit hours. Open to first year students. Professor DAVIES.

A practice course in the methods of correct thinking.

105. ELEMENTARY ETHICS. First semester. Three credit hours. Not open to first year students. Professor DAVIES.

This course is an introduction to the study of the moral life as it appears in the individual and in society.

106. CONTEMPORARY PROBLEMS IN APPLIED ETHICS. Second semester. Three credit hours. Not open to first year students. Professor LEIGHTON. Should be preceded by either Philosophy 105 or 101.

A discussion of practical problems in ethics, such as the rights and limits of individuality, political and social rights and obligations, the ethical problems of industry, democracy, the family, international relations, ethical progress and social evolution, morals and religion.

115-116. AESTHETICS. The year. Two credit hours. Open to first year students. Professor DAVIES.

An elementary study of the beautiful in nature and in art.

151-152. HISTORY OF PHILOSOPHY. The year. Three credit hours. Not open to first year students. Professor LEIGHTON.

In this course the history of reflective thinking on the problems of human life and the world-order will be traced in outline, from the dawn of Greek speculation to the rise of the modern doctrine of evolution. Constant regard will be had to the relation of philosophy to social, literary, and scientific movements.

155-156. HISTORY OF CHRISTIAN PHILOSOPHY. The year. Three credit hours. Open to first year students. Professor DAVIES.

A study of the source material in the New Testament and of the stages through which this material was developed into the scholastic systems of the Middle Ages.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

111-112. **ADVANCED ETHICS.** The year. Two credit hours. Prerequisite, one year in philosophy, psychology, or sociology. Professor DAVIES.

A course in the origin and development of morality, in the light of our more recent knowledge in anthropology, sociology, and psychology. Text: Davies, *The Moral Life*; A study in Genetic Ethics.

113-114. **ADVANCED LOGIC.** The year. Three credit hours. Prerequisite, Philosophy 102. Professor DAVIES.

A systematic study of the conditions, criteria, nature and degrees of truth.

119-120. **HISTORY AND PHILOSOPHY OF RELIGION.** The year. Two credit hours. Prerequisite, one year's work in Philosophy or Psychology. Professor LEIGHTON.

An account of the actual nature of religion, as shown in its chief historical and psychological phenomena, and an interpretation of its significance for culture and the truth of its leading conceptions.

121-122. **METAPHYSICS.** The year. Two credit hours. Time to be arranged. Prerequisite, at least one year's work in Philosophy and in a natural science. Professor LEIGHTON.

This course is a systematic discussion of the fundamental problems of theoretical philosophy; the meaning of truth and its relation to reality, the philosophy of nature, and of the human self, the problems of freedom, evil, immortality, and theism.

*123-124. **THE PHILOSOPHY OF MIND.** The year. Two credit hours. Prerequisite, one year's work in Philosophy and Psychology. Professor DAVIES.

A study of the problems growing out of the nature of mind and its place in history and the material universe.

127. **BRITISH PHILOSOPHY FROM BACON TO HUME.** First semester. Two credit hours. Prerequisite, one year in Philosophy or Psychology. Professor DAVIES.

An historical course, covering the period of British Empiricism.

*Not given in 1911-1912.

128. CONTINENTAL PHILOSOPHY FROM DESCARTES TO LEIBNITZ. Second semester. Two credit hours. Prerequisite, one year in Philosophy. Professor DAVIES.

An historical course, covering the period of continental rationalism.

129-130. THE HUMANISTIC MOVEMENT. The year. Three credit hours. Prerequisite, one year in Philosophy or Psychology. Professor DAVIES.

Traces the problem of man in the history of culture, and studies the meaning of this problem for a philosophy of life.

*131-132. PHILOSOPHY OF VALUES. The year. Three credit hours. Prerequisite, one year in Philosophy, Psychology, or Economics and Sociology. Professor DAVIES.

A study of the foundations of our economic, social, ethical, aesthetical, and religious judgments, and of the nature of the objects of these judgments.

*137. THE PHILOSOPHY OF KANT AND FICHTE. First semester. Two credit hours. Time to be arranged. Prerequisite, either Philosophy 101-102, 151-152, 127-128, or two semester's work in any of these courses. Professor LEIGHTON.

A study of the systems of Kant and Fichte in their historical relations and present significance.

*138. THE PHILOSOPHY OF HEGEL. Second semester. Two credit hours. Time to be arranged. Prerequisite, the same as for course 137, which should precede this course. Professor LEIGHTON.

A study of Hegel's system in its historical relations, with an estimate of its present value.

141. CONTEMPORARY PHILOSOPHICAL ISSUES. First semester. Two credit hours. Prerequisite, one year in Philosophy and Psychology, including either Philosophy 101-102, 151, 152, 127, or 128. Professor LEIGHTON.

An expository and critical discussion of recent pragmatism, humanism, realism, pluralism, and personal idealism.

142. THE MAIN CURRENTS OF NINETEENTH CENTURY THOUGHT. Second semester. Two credit hours. Not open to first or second year students. Professor LEIGHTON.

*Not given in 1911-1912.

A non-technical account and estimate of the chief formative influences in the reflective life of the nineteenth century. Intended for students of literature, science, and social movements. Does not presuppose any previous philosophical training.

*146. PHILOSOPHY OF HISTORY. Two credit hours. Second semester. Time to be arranged. Prerequisite, Philosophy 151-152, or any advanced course in Philosophy, and one year's work in European History or Sociology. Professor LEIGHTON.

The relations between natural science and history. The chief types of philosophies of history. Philosophy of History as systematic theory of social and individual culture-values. The meaning of history for a system of philosophy.

EXCLUSIVELY FOR GRADUATES

201-202. GRADUATE SEMINARS. The year. Two to five credit hours. Time to be arranged. Opportunities for research, depending on the previous training and special interests of individual students, will be afforded in (a), THE HISTORY OF PHILOSOPHY, (b), LOGIC AND THE THEORY OF THE SCIENCES, (c) METAPHYSICS, (d) ETHICS, (e) AESTHETICS, and (f) THE PHILOSOPHY OF RELIGION. Professors LEIGHTON and DAVIES.

PHYSICAL EDUCATION

Physical Education is conducted under the direct supervision of the Director, who is a graduate physician and a member of the University Faculty. He is assisted by an associate director for women, also an assistant and twenty student aids, who are selected each year from the upper classmen and those who show proficiency in their work. The main floor of the gymnasium (80 by 150 ft.) is well equipped with the most modern gymnastic apparatus. It is used by the women in the forenoon while the men exercise in the new gymnasium on the first floor. In the afternoon the main floor is used exclusively by the men for class work, athletics, basketball, recreative games, etc. Regular class exercise two hours per week is required during the first year of a student's residence at the University, or until he has successfully completed one year of this work. A thorough physical examination is made of each student at the opening of the college year. Physical defects, abnormalities, and weaknesses are noted, and judicious, healthful exercise is prescribed to fit the student's individual needs.

*Not given in 1911-1912.

PHYSICAL EDUCATION FOR MEN (The Gymnasium)

PROFESSOR WINGERT, MR. BAUER

1. **PHYSICAL EDUCATION.** One credit hour. Two hours per week. The year. (a) Lectures on hygiene and physiology of exercise first two weeks, first semester. (b) Corrective: A graded course of free-hand exercise stretching, relaxing, stimulating, exercise with light hand apparatus for the relief and correction of slight body defects, deformities, improper carriage, etc. (c) Educative: Graded progressive exercise on the apparatus and mats to promote muscular tone, vigor, vitality, endurance. (d) Recreative: Gymnasium games, mental relaxation, non-competitive exercises. (e) Ability to swim is required and free instruction is given to those who cannot swim.

2. **ADVANCED EXERCISES.** Elective: (a) Advanced exercises on the apparatus and mats. (b) Combative exercises: Boxing, fencing, wrestling. A small charge is made to those electing this work. (c) Recreative: Football, baseball, basketball, tennis, track and field sport, cross-country running, etc. Special hours are arranged for those electing the above exercise and credit given in regular course.

PHYSICAL EDUCATION FOR WOMEN (The Gymnasium)

DR. LITTLEJOHN, MISS SAUER

1. **PHYSICAL EDUCATION.** One credit hour. The year. (a) Lectures on hygiene and purpose of different kinds of physical exercises, four hours per week, first two weeks of first semester, first week of second semester. Practical work in gymnasium, as follows: (b) Corrective work: Exercise for correction of faulty position of different parts of body, and of deformities; for development of chest, etc. (c) Educative work: Exercises to develop co-ordination of groups of muscles, accuracy of movement, and to impart grace and beauty and a ready expression of thought in physical motions. (d) Recreative: Classic dancing, and rhythmic movements, gymnastic games, and relaxing exercises. (e) Athletics (elective): Carefully supervised basket ball, running, etc., for those who desire it. Four hours per week during the first year of student's residence.

A physical examination is made by the directors of every woman entering this course before she can begin the gymnasium work, and if necessary, special work will be prescribed to meet her physical needs.

2. **PHYSICAL EDUCATION.** Course 1 required. One credit hour. The year. Four hours per week.

3. PHYSICAL EDUCATION. Courses 1 and 2 required. Advanced work. Two hours per week. Elective.

In this course, students may request special instruction in the different branches of Physical Training.

PHYSICS

(Office, Room 24, Physics Hall)

PROFESSOR COLE, PROFESSOR THOMAS, ASSOCIATE PROFESSOR EARHART,
ASSISTANT PROFESSOR BLAKE, ASSISTANT PROFESSOR SMITH

103-104. GENERAL PHYSICS. Four credit hours. The year. Three recitations and one two-hour laboratory period. Lectures and laboratory. A non-mathematical course for students who have no entrance credit in physics. Associate Professor EARHART.

105-106. GENERAL PHYSICS. Four credit hours. The year. Lectures and laboratory. Prerequisite, entrance credit in physics. Assistant Professor BLAKE.

121-122. LABORATORY. Three to five credit hours. The year. Prerequisite, Physics 103-104, or 105-106. Assistant Professor SMITH.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

123-124. ADVANCED LABORATORY. Three to five credit hours. The year. Prerequisite, Mathematics 121-122. Assistant Professor SMITH.

*141-142. ADVANCED MECHANICS AND MOLECULAR PHYSICS. Three credit hours. The year. Prerequisite, Physics 103-104 or 105-106. calculus precedes or accompanies. First semester, Mechanics, Assistant Professor BLAKE; second semester, Molecular Physics and Heat, Associate Professor EARHART.

This course alternates with 143-144.

143-144. ADVANCED LIGHT AND ELECTRICITY. Three credit hours. The year. Prerequisite, Physics 103-104 or 105-106; calculus precedes or accompanies. First semester, Light. Professor COLE; second semester, Electricity and Magnetism, Associate Professor EARHART.

This course alternates with 141-142.

Courses 141-142 and 143-144 together constitute a two-year cycle, moderately advanced, covering the whole subject of Physics.

145-146. PHYSICAL SEMINAR. One credit hour. The year. Prerequisite, a year of college work in physics. Professor COLE.

*Not given in 1911-1912.

*169-170. THEORETICAL PHYSICS. An advanced course in Light. Two credit hours. The year. Prerequisite, Physics 105-106, and Mathematics 141-142, or equivalents. Professor COLE.

127-128. THE THEORY AND PRACTICE OF ELECTRICAL MEASUREMENTS. Three to five credit hours. The year. Prerequisites, Physics 105-106, or equivalent; a course in Electrical Measurement, and Mathematics 141-142, or equivalent. Professor THOMAS.

EXCLUSIVELY FOR GRADUATES

211-212. THEORY OF OSCILLATIONS WITH THEIR APPLICATIONS TO WIRELESS TELEGRAPHY. Two hours. The year. Prerequisite, Physics 105-106, and Mathematics 141-142, or equivalents. Alternates with 213-214. Assistant Professor BLAKE.

*213-214. CONDUCTION OF ELECTRICITY THROUGH GASES AND RADIOACTIVITY. Two hours. The year. Prerequisite, same as for 211-212. Associate Professor EARHART, and Assistant Professor BLAKE.

*203-204. THEORETICAL MECHANICS. Three hours. The year. Prerequisites, Physics 105-106, and Mathematics 141-142, or equivalents. Assistant Professor BLAKE.

205-206. THERMODYNAMICS AND ELECTROLYTIC CONDUCTION. Two hours. The year. Prerequisites, Physics 105-106, and Mathematics 141-142, or equivalents. Assistant Professor SMITH.

*207-208. THEORY OF ELECTRICITY AND MAGNETISM. Three hours. The year. Prerequisites, Physics 105-106, and Mathematics 141-142, or equivalents. Assistant Professor SMITH.

Courses 203-204, 205-206, 207-208, and 169-170 together form an advanced two-year cycle, covering the whole ground of physics.

201-202. RESEARCH LABORATORY. Three to five hours. The year. Prerequisites, two years laboratory work in physics. Professor COLE, Professor THOMAS, Associate Professor EARHART, Assistant Professor BLAKE, Assistant Professor SMITH.

*Not given in 1911-1912.

POLITICAL ECONOMY

(See Economics and Sociology)

POLITICAL SCIENCE

(Office, Room 200, University Hall)

PROFESSOR SPENCER, ASSISTANT PROFESSOR SHEPARD

101-102. CONSTITUTIONAL GOVERNMENT. Three credit hours. The year. Professor SPENCER, Assistant Professor SHEPARD.

This course is not open to Freshmen. It affords a general introduction to the field of political science, and should precede all other courses offered by the department, except course 113-114, but in some cases advanced courses may be taken in conjunction, if the consent of the instructor be obtained. It is strongly recommended that this course be preceded by a year's work in European or American history. American government is studied in the first semester, European governments in the second. The work of the first semester will be repeated in the second semester as Political Science 102b.

103-104. INTERNATIONAL LAW. Two credit hours. The year. Professor KNIGHT.

A study of the principles of international law in their growth and present status, together with an examination of some of the unsettled questions in the field. Lawrence, (Principles of International Law,) to be used as a text-book, with frequent citations of authorities to be read, and with some leading cases to be thoroughly examined.

105. COMPARATIVE CONSTITUTIONAL LAW. Three credit hours. First semester. Assistant Professor SHEPARD.

A comparative study of the constituent, legislative and electoral organs of government, with a view to their historical evolution, structures and formation.

106. MUNICIPAL GOVERNMENT AND PROBLEMS. Three credit hours. Second semester. Given biennially, alternating with course 110. Professor SPENCER.

A comparative study of the City, in ancient and modern times, in America, England, and Europe; lessons from experience, projects for reform.

107. PARTY GOVERNMENT. Three credit hours. First semester. Given biennially, alternating with course 109. Professor SPENCER.

Parties will be considered as extra-governmental agencies for political purposes; their reason for being, their organization and methods, the effect of their activity upon governmental processes.

*108. COLONIAL GOVERNMENT AND ADMINISTRATION. Three credit hours. Second semester. Given biennially. Assistant Professor SHEPARD.

A comparative study of colonial political institutions and administrative problems, with special attention to the colonies and dependencies of the United States.

*109. THE GOVERNMENT OF OHIO. Three credit hours. First semester. Given biennially, alternating with course 107. Professor SPENCER.

The evolution of the present constitution of this state, and governmental institutions, legislative, executive, judicial, created in accordance therewith.

*110. COMPARATIVE ADMINISTRATION. Three credit hours. Second semester. Given biennially, alternating with course 106. Professor SPENCER.

This course will include (1) a study of the principles of administration, the methods for organizing the agencies for execution of the will of the state, and the relation of the officer to government and the community; (2) a description of the administrative systems of Ohio, the United States, England, France, and Prussia.

111-112. INTRODUCTION TO JURISPRUDENCE. Two credit hours. The year. Professor SPENCER.

A preliminary study of legal concepts. Holland's Jurisprudence will be used as a text-book, supplemented by readings in the works of Blackstone, Austin, Sohm, and Maine, and in American cases.

113-114. PROBLEMS IN INTERNATIONAL POLITICS. One credit hour. The year. Given biennially. Assistant Professor SHEPARD.

An investigation of selected problems and topics in current international and foreign politics. A considerable amount of reading in the English and American reviews will be assigned.

115-116. HISTORY OF POLITICAL THEORIES. Two credit hours. The year. Assistant Professor SHEPARD.

A study of the evolution of political philosophy from the Greeks to the nineteenth century, in its relation, as cause and effect, to historical forces. Dunning's History of Political Theories will serve as a basis for the course; readings will be assigned in the works of the more important political philosophers.

*Not given in 1911-1912.

117-118. PRO-SEMINAR IN POLITICAL SCIENCE. Professor SPENCER, Assistant Professor SHEPARD.

Students will pursue independent investigations, meeting once a week for conference and criticism. Before registering for this course the consent of a member of the department must be obtained. The topic for consideration will be in the first semester, The Initiative Referendum and Recall, in the second semester, Some Tendencies in State Constitutions.

PSYCHOLOGY

(Office, Room 404, University Hall)

PROFESSOR MAJOR, PROFESSOR HAINES.

101-102. GENERAL PSYCHOLOGY. Introductory Course. Three credit hours. The year. Professor MAJOR, Professor HAINES.

103. Repetition of 102. First semester. Professor HAINES.

104. Repetition of 101. Second semester. Professor MAJOR.

111-112. EXPERIMENTAL PSYCHOLOGY. Three credit hours. The year. Lecture and laboratory. Prerequisite, Psychology 101-102. Professor HAINES.

A systematic training course in the method of introspection, which brings one to a first-hand acquaintance with the facts of the mental life. Topics: The sense fields, geometrical optical illusions, stereoscopic and pseudoscopic illusions, tactual space perception, auditory localization, attention, reaction-time, memory types, tonal fusion, association, and analysis of judgment.

*115-116. MENTAL DEVELOPMENT. Two credit hours. The year. Professor MAJOR.

This course is designed (1) to describe the characteristic features of the child mind (2) to study the principles and empirical data of the development of the individual human mind.

120. ABNORMAL PSYCHOLOGY. Three credit hours. First semester. Prerequisite, Psychology 101-102. Professor HAINES.

Studies of the main types of insanity, both for the knowledge of the constitution of the abnormal mind, and for the knowledge, gained by contrast, of the normal mind. Clinics, lectures, and recitations.

*119. ANIMAL PSYCHOLOGY. Three credit hours. First semester. Prerequisite, Psychology 101-102. Professor HAINES.

*Not given in 1911-1912.

A systematic following-out of the steps in the evolution of mental processes through the animal series from the protozoa to the apes, with a special look-out for the method of organization, studies in the development of the senses, association, memory, perception, attention, suggestion, accommodation, imitation, learning-capacity, and practical judgment.

122. THE DEFECTIVE CHILD. Three credit hours. Second semester. Professor HAINES.

A study of the varieties and grades of mental deficiency, including the backward child of the schools and the distinctly feeble-minded. The causes and treatment of the same. Lectures, recitations and clinics.

*125. SOCIAL PSYCHOLOGY. Three credit hours. First semester. Prerequisite, Psychology 101-102. Professor HAINES.

The social factor in the development of personality, and the mental process involved in social development, including such topics as suggestion, imitation, invention, sympathy, modesty, the socially unfit, and the genius

*126. FOLK PSYCHOLOGY. Three credit hours. Second semester. Professor HAINES.

The psychic factors involved in group activities, such as the play of children, art (especially of savages and barbarians), mob phenomena, family life, and ethnic groups.

129-130. ADVANCED PSYCHOLOGY. Two credit hours. The year. Prerequisite, Psychology 101-102. Professor MAJOR.

This course includes a discussion of the methods of Psychology, and a detailed consideration of the main psychological concepts—feeling, conation, perception, imagination, etc., both in themselves and in their relation to one another.

133-134. INDIVIDUAL PSYCHOLOGY. Two credit hours. The year. Professor MAJOR.

A study of individual variations in mental capacity and development.

137-138. GENERAL PSYCHOLOGY. Advanced course. Three credit hours. The year. Time to be arranged. Professor MAJOR.

This course is open to students who have completed Psychology 101-102, or the equivalent, and who wish to make a more intensive

*Not given in 1911-1912.

study than is practical in an introductory course of certain topics selected from the field of general psychology.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

141-142. RESEARCH IN EXPERIMENTAL PSYCHOLOGY. Two credit hours or more. The year. Professor HAINES.

The investigation of problems in any field of Psychology by the aid of the experimental method. The student selects a problem in consultation with the instructor, who carefully considers the student's interests. Members of the laboratory assist each other as observers.

145-146. SEMINAR IN PSYCHOLOGY. Two to five credit hours. The year. Time to be arranged. Professor MAJOR, Professor HAINES.

EXCLUSIVELY FOR GRADUATES

201-202. GRADUATE COURSES IN PSYCHOLOGY. Three to ten hours. The year. Professor MAJOR, Professor HAINES.

These courses are to meet the needs of individual graduate students who are pursuing a major or minor study in the department of Psychology.

RHETORIC AND ENGLISH LANGUAGE

(See English)

ROMANCE LANGUAGES AND LITERATURES

(Office, University Hall, Room 305)

PROFESSOR BOWEN, PROFESSOR BRUCE, ASSOCIATE PROFESSOR INGRAHAM,
ASSISTANT PROFESSOR PEIRCE, ASSISTANT PROFESSOR

HAMILTON, MR. CHAPIN

Courses 101, 102, 103, and 104 in French must precede all others (except course 106). Courses 117 to 120 inclusive in French must be preceded by courses 107, 109, and 110, or an equivalent.

I. FRENCH

FOR UNDERGRADUATES

101-102. ELEMENTARY FRENCH. Four credit hours. The year. Grammar: Fraser and Squair's, or equivalent. Reader: Aldrich and Foster's, or Bowen's First Scientific. Historical and narrative prose; one or more prose comedies. Nine sections. All instructors.

Stress is laid first upon the acquisition of correct pronunciation, after which the entire energy of the student is directed toward the attainment of a full and accurate knowledge of the language. Grammar and composition are made to contribute to this end. Sight reading emphasized.

103-104. MODERN FRENCH LITERATURE. Four credit hours. The year. Four sections. Prerequisite, courses 101-102, or equivalent. Professor BRUCE, Assistant Professor PEIRCE, Assistant Professor HAMILTON.

The work of the year deals with the following subjects: (1) Contes; (2) The novel (Balzac or Hugo); (3) Lyric poetry; (4) Romantic drama (Hugo). Prose composition. Systematic attention given to syntax and idiom. Lectures supplement the work. Private reading required.

106. SCIENCE READING. Four credit hours. Second semester. Prerequisite, course 103.

A course of rapid reading introductory to the vocabulary of scientific literature.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

107. ADVANCED PROSE COMPOSITION. Two credit hours. First semester. Professor BOWEN, Assistant Professor PEIRCE.

Cameron's French Composition, followed by other selections. Dictation. Conversation.

108. HISTORY OF FRENCH LITERATURE. Two credit hours. Second semester. Lectures and illustrative readings. Associate Professor INGRAHAM.

*109. SEVENTEENTH CENTURY DRAMA: MOLIERE AND CORNEILLE. Three credit hours. First semester. Given biennially, alternating with course 111. Professor BOWEN, Assistant Professor PEIRCE.

Lectures on the growth of French comedy and tragedy. Critical study of representative plays of Moliere, Regnard, and Corneille. Collateral reading. Assigned topics and reports.

*110. SEVENTEENTH CENTURY TRAGEDY AND PROSE. Three credit hours. Second semester. Given biennially, alternating with course 112. Professor BOWEN, Assistant Professor PEIRCE.

Representative dramas of Racine. Studies of Descartes, Pascal, La Bruyere and others. Warren's Selections. Lectures, with collateral reading and reports.

111. EIGHTEENTH CENTURY DRAMA. Three credit hours. First semester. Given biennially, alternating with course 109. Professor BOWEN, Assistant Professor PEIRCE.

Lectures on the growth of French comedy, with work centering on Marivaux and Beaumarchais. Study of the drama of Voltaire. Collateral reading.

*Not given in 1911-1912.

112. FRENCH SOCIETY IN THE SEVENTEENTH CENTURY. Three credit hours. Second semester. Given biennially, alternating with course 110. Professor BOWEN, Assistant Professor PEIRCE.

Writers who portray the social life of the seventeenth century in France. Special reference to the *Precieux* movement. Crane's *Selections*, and others. Lectures, with collateral reading.

*113. RECENT FRENCH PROSE. Two credit hours. First semester. Given biennially, alternating with course 115. Professor BRUCE.

Rapid reading, with lectures. Selections from the works of such writers as Bazin, Daudet, Loti, and Zola.

*114. PRACTICE IN SPEAKING AND WRITING FRENCH. Two credit hours. Second semester. Students wishing to elect this course must have the consent of the instructor in charge. Given biennially, alternating with course 116. Professor BRUCE.

115. EIGHTEENTH CENTURY PROSE. Two credit hours. First semester. Given biennially, alternating with course 113. Professor BRUCE.

Selection from Voltaire (ed. Cohn and Woodward), and others.

116. ADVANCED CONVERSATIONAL PRACTICE. Two credit hours. Second semester. Students wishing to elect this course must have the consent of the instructor in charge. Given biennially, alternating with course 114. Professor BRUCE.

*117-118. FRENCH SEMINAR A. Two credit hours. The year. Given biennially, alternating with courses 119-120. Professor BOWEN or Professor BRUCE.

Studies in specific literary fields. The subject for 1910-1911 was: The Development of the French Novel.

119-120. FRENCH SEMINAR B. Two credit hours. The year. Given biennially, alternating with courses 117-118. Professor BOWEN.

Studies in Old French (with emphasis of *la Chanson de Roland*) and in the language and writers of the sixteenth century. Special consideration of Montaigne.

II. ITALIAN

FOR UNDERGRADUATES

101-102. ELEMENTARY ITALIAN. Two credit hours. The year. Grammar (Grandgent's or Young's) and Reader (Bowen's). Modern prose. Comedies of Goldoni. Students are advised to postpone

*Not given in 1911-1912.

the election of this course until they have completed French 101-102, or an equivalent. Professor BRUCE.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

103. THE ITALIAN NOVEL. Two credit hours. First semester. Manzoni (*I Promessi Sposi*). Lectures. Time to be arranged. Prerequisite, Italian 101-102. Professor BRUCE.

104. DANTE. Two credit hours. Second semester. Selections from *The Inferno* and *Paradiso*. Lectures. Time to be arranged. Prerequisite, Italian 103. Professor BRUCE.

III. SPANISH

FOR UNDERGRADUATES

101-102. ELEMENTARY SPANISH. Four credit hours. The year. Grammar (Hills and Ford's), and Ingraham's *Victoria y Otros Cuentos*. Easy prose and plays. Composition and practice in speaking. Four sections. Associate Professor INGRAHAM, Assistant Professor HAMILTON, Mr. CHAPIN.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

103-104. MODERN SPANISH LITERATURE. Four credit hours. The year. Prerequisite, Spanish 101-102, or equivalent. Associate Professor INGRAHAM.

The modern novel and drama. Lectures covering a survey of the literature. Composition and practice in speaking continued.

105. CERVANTES: *DON QUIXOTE*. Two credit hours. First semester. Time to be arranged. Prerequisite, Spanish 103-104. Associate Professor INGRAHAM.

106. LOPE DE VEGA AND CALDERON. Two credit hours. Second semester. Time to be arranged. Prerequisite, Spanish 105. Associate Professor INGRAHAM.

EXCLUSIVELY FOR GRADUATES

201-202. INTRODUCTION TO ROMANCE PHILOLOGY. Two hours. The year. Time to be arranged. Professor BOWEN.

Origin and distribution of the Romance Languages and dialects. Comparative phonology and morphology of French, Italian, and Spanish. Peculiarities of syntax. Lectures and reading of illustrative texts.

203-204. OLD PROVENÇAL. One hour. The year. Time to be arranged. Professor BOWEN.

Study of the language and literature of the Troubadours. Appel's Provenzalische Chrestomathie (Leipzig, 3rd edition); Grandgent's Provençal Phonology and Morphology.

205-206. HISTORY OF THE LITERARY MOVEMENT IN FRANCE IN THE FIRST HALF OF THE NINETEENTH CENTURY. Two hours. The year. Time to be arranged. Professor BRUCE.

The attention of all students in Romance Languages is called to courses 111 and 112 in Latin, given by Professor Elden, on the subject of Roman and Comparative Literature. This course is strongly recommended.

SOCIOLOGY

(See Economics and Sociology)

SPANISH

(See Romance Languages)

ZOOLOGY AND ENTOMOLOGY

(Office, Room 1, Biological Hall)

PROFESSOR OSBORN, PROFESSOR LANDACRE, ASSOCIATE PROFESSOR HINE,
ASSISTANT PROFESSOR BARROWS, MR. NISWONGER, MR. HOOD,
MISS MCLELLAN, MR. METCALF, AND MR. FULTON.

101-102. ELEMENTARY ZOOLOGY. Three credit hours. The year. Laboratory and lectures. Professor OSBORN, Professor LANDACRE, Professor BARROWS.

An introductory general course intended to give an acquaintance with animal life and the principles of biology and as a foundation for more advanced courses.

103. COMPARATIVE ANATOMY OF THE VERTEBRATES: VERTEBRATES TO BIRDS. Three to five credit hours. First semester. Prerequisite, course 101-102, or equivalent, and 103. Professor LANDACRE.

104. COMPARATIVE ANATOMY OF VERTEBRATES: BIRDS AND MAMMALIA. Three to five credit hours. Second semester. Prerequisite, course 101-102, or equivalent, and 103. Hours same as 103. Professor LANDACRE.

107-109. ECONOMIC ENTOMOLOGY. Three credit hours. The year. A general course in Entomology with special reference to economic species. Prerequisite, Zoology 101-102. Lectures and laboratory.

119. GROSS ANATOMY OF THE FROG. Three to five credit hours. First semester. Time to be arranged. Professor LANDACRE.

120. EMBRYOLOGY OF THE FROG. Three to five credit hours. Second semester. Prerequisite, course 101-102 or 119. Time to be arranged. Professor LANDACRE.

121-122. INVERTEBRATE MORPHOLOGY. Three to five credit hours. The year. Time to be arranged. Prerequisite, course 101-102. Professor OSBORN.

125. VERTEBRATE EMBRYOLOGY, KARYOKINESIS, AND THE EARLY DEVELOPMENT OF AMPHIOXIS, FISHES, AND AMPHIBIANS. Three to five credit hours. First semester. Prerequisite, course 101-102. Lecture and laboratory. Professor LANDACRE.

126. VERTEBRATE EMBRYOLOGY: BIRDS AND MAMMALS. Three to five credit hours. Second semester. Prerequisite, course 101-102. Lecture and laboratory. Professor LANDACRE.

129-130. QUANTITATIVE STUDIES IN VARIATION, HEREDITY AND ANIMAL BEHAVIOR. Three to five credit hours. The year. Time to be arranged. Prerequisite, course 101-102, or equivalent. Assistant Professor BARROWS.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

131-132. EVOLUTION. Three credit hours. The year. Prerequisite, one year of Zoology or an equivalent. Professor OSBORN, Professor LANDACRE.

A discussion of the facts and theories of the origin, development, and distribution of animal life. The first semester deals chiefly with variation, heredity, isolation, adaptations, and geographical distribution as the fundamental facts in Evolution of Animal forms. The second semester is devoted to a study of the factors concerned in variation, heredity and ontogeny, and the application of the lines of heredity to practical problems.

133. COMPARATIVE NEUROLOGY. Three to five credit hours. First semester. Time to be arranged. The origin and structure of the nervous system of the lower vertebrates. Professor LANDACRE.

134. COMPARATIVE NEUROLOGY. Three to five credit hours. Second semester. Time to be arranged. The origin and structure of the nervous system of the higher vertebrates. Professor LANDACRE.

135-136. CYTOLOGY. Three to five credit hours. The year. Time to be arranged. Prerequisite, course 101-102, 103, 104, or 121-122.

137-138. ADVANCED ENTOMOLOGY. Three to five credit hours. Time to be arranged. The year. Prerequisite, course 101-102. Professor OSBORN.

139. ORNITHOLOGY. Two credit hours. First semester. Lecture. Laboratory to be arranged. The first semester is devoted to the anatomy of the birds and to the study of museum specimens. Associate Professor HINE.

140. ORNITHOLOGY. Two credit hours. Second semester. Lecture. Laboratory to be arranged. This semester is devoted to systematic and field work. Associate Professor HINE.

141-142. RESEARCH WORK. Subject to be assigned. Five to ten credit hours. The year. Prerequisite, course 101-102, and the equivalent of 103-104, or 121-122, or 125-126. Professor OSBORN, Professor LANDACRE.

143-144. SEMINAR. One credit hour. The year. Professor OSBORN, Professor LANDACRE.

FOR GRADUATES ONLY

223-224. INVERTEBRATE EMBRYOLOGY. Three to five credit hours. The year. Time to be arranged. For graduates only. Prerequisite, 101-101, 103, 104, or equivalent. Professor OSBORN.

247-248. INVERTEBRATE ZOOLOGY. The year. Five hours. Time to be arranged. Professor OSBORN.

249-250. VERTEBRATE EMBRYOLOGY. Three to five hours. The year. Subject to be assigned. Time to be arranged. Professor LANDACRE.

ANNOUNCEMENTS OF OTHER DEPARTMENTS OF THE UNIVERSITY

The faculty of the College of Arts, Philosophy, and Science will accredit towards the degree of Bachelor of Arts a limited amount of work in the courses announced below. The student desiring to elect one or more of these courses is required to file a petition with his election card in June, showing the special purpose which he has in view, and bearing the written approval of the professor in charge of the course desired. The Executive Committee will not count towards the degree in Arts any course named below that is not allied to the work of the student in the College of Arts, Philosophy, and Science. But a student with no conditions outstanding who has at least thirty hours to his credit may, without petition, elect any course in the University on which he is prepared to enter, as extra work, not counting towards the degree of Bachelor of Arts.

AGRICULTURAL CHEMISTRY

(Townshend Hall)

PROFESSOR WEBER, ASSOCIATE PROFESSOR LYMAN

121-122. FOOD INSPECTION AND ANALYSIS. Three to five credit hours. Time to be arranged. The year. Prerequisite, course 103-104, or an equivalent preparation in quantitative analysis. Professor WEBER, Associate Professor LYMAN.

DOMESTIC SCIENCE

(Hayes Hall)

PROFESSOR WARDALL, ASSOCIATE PROFESSOR WHITE, ASSOCIATE PROFESSOR FLINT, MISS BLOHM

I. DOMESTIC SCIENCE

101-102. FOODS. Four credit hours. The year. Prerequisite, Chemistry 106 or 110. Associate Professor WHITE.

A study of nutritive principles; their occurrence in ordinary food-stuffs, their cost from various sources, and the principles involved in their preparation. Lecture and recitation are combined with laboratory work.

II. DOMESTIC ART

101-102. TEXTILES. Two credit hours. The year. Recitation and laboratory. Prerequisite, or concurrent, Art 101-102.

This course includes the study of fibers and fabrics from an historic, economic, and social standpoint. In the laboratory the making of articles involves the proper selection of material and the working out of suitable designs. Associate Professor FLINT, Miss BLOHM.

ARCHITECTURE

(Office, Brown Hall)

PROFESSOR BRADFORD, ASSOCIATE PROFESSOR CHUBB, MR. HASKETT

111 or 112. PHOTOGRAPHY. Two credit hours. First or second semester. Prerequisite, Elementary Chemistry.

122. PHOTOGRAPHY. Two credit hours. Second semester. Prerequisite, Architecture 111 or 112.

ART

(Office, Hayes Hall)

PROFESSOR LAVER, MISS FINNEY

101-102. DESIGN AND COMPOSITION. Two credit hours. The year. MISS FINNEY.

This course is designed to develop appreciation of harmony of line, space, and color. It brings into play the creative imagination and establishes a basis for critical judgment along all Art lines. Nature motives used. Study of color, theory, and harmony. Medium: pencil, ink, charcoal, and water color.

103-104. STILL LIFE COMPOSITION. Two or more credit hours. The year. Lecture and studio work. Professor LAVER, MISS FINNEY.

This course offers training in form and the study of neutral values and light and shade as related to color. Medium: charcoal.

105-106. DESIGN AND COMPOSITION. Two credit hours. The year. Prerequisite, Art 102. MISS FINNEY.

Continuation of Art 102 with advance problems in color and line as applied to decoration. Three credit hours.

107-108. STILL LIFE COMPOSITION IN COLOR VALUES. Two or more credit hours. The year. Prerequisite, Art 104. Lecture and studio work. Professor LAVER.

Cast drawing. Medium: charcoal. Outdoor sketching and study from life.

111-112. STUDY FROM HEAD AND COSTUME MODEL. One or more credit hours. The year. Prerequisite, see instructor. Lectures and studio work. Professor LAVER.

Medium: selected. Outdoor sketching in color.

119-120. ART APPRECIATION. One credit hour. The year. Required of students taking Art 113, 114, 115, 116, 117, 118. Professor LAVER.

CIVIL ENGINEERING

(Office, Room 33, Brown Hall)

ASSISTANT PROFESSOR CHAMBERLIN, MR. HINKLE, MR. STERTZBACH

(Of the twenty-seven courses offered in the Department of Civil Engineering, the following are open to students of the College of Arts, Philosophy, and Science:)

121. SURVEYING AND DRAFTING. Six credit hours. First semester. Prerequisite, Engineering Drawing 101-102, Mathematics 121-122, or equivalent.

128. SURVEYING. Three credit hours. Second semester. Prerequisite, Mathematics 121-122, or equivalent.

ENGINEERING DRAWING

(Office, Brown Hall)

PROFESSOR FRENCH, ASSISTANT PROFESSOR MEIKLEJOHN, MR. WILLIAMS, MR. HARPER, MR. SHEETS, MR. IVES, MR. TURNBULL, MR. NORRIS

(Of the courses offered in the Department of Engineering Drawing, the following are open to students in the College of Arts, Philosophy, and Science:)

101. ELEMENTARY MECHANICAL DRAWING. Two credit hours. First semester.

Practice in the use of drawing instruments, elementary projections.

102. MECHANICAL DRAWING. Three credit hours. Second semester. Prerequisite, Drawing 101.

Lettering, orthographic, isometric, and oblique projections.

105. DESCRIPTIVE GEOMETRY. Three credit hours. First semester. Prerequisite, Drawing 102.

Two lectures, one drawing period weekly.

106. ADVANCED DESCRIPTIVE GEOMETRY. Three credit hours. Second semester. Prerequisite, Drawing 105.

Two lectures, one drawing period weekly.

127. MECHANICAL DRAWING. One and one-half credit hours. First semester.

Elementary Mechanical and Architectural Drawing.

128. HOUSE PLANNING. One and one-half credit hours. Second semester. Prerequisite, Drawing 127.

Domestic Science, second year.

135-136. TECHNICAL DELINEATION. Two credit hours. The year.

Courses 135-136 are designed for students in biological work and provide training in rendering in pencil, pen and ink, and brush.

ELECTRICAL ENGINEERING

(Office, Engineering Laboratory)

PROFESSOR CALDWELL, ASSOCIATE PROFESSOR HUNT, ASSISTANT
PROFESSOR MC OMBER

101. ELECTRICAL ENGINEERING. Five credit hours. First semester. Prerequisite, Mathematics 142 and Physics 103-104. Associate Professor HUNT, Assistant Professor McOMBER.

104. DIRECT CURRENT DYNAMO MACHINERY. Five credit hours. Second semester. Prerequisite, Physics 103-104, and 105-106, or its equivalent. Associate Professor HUNT, Assistant Professor McOMBER.

108. ALTERNATING CURRENT CIRCUITS AND MACHINERY. One and one-half credit hours. Second semester. Prerequisite, course 101. Professor CALDWELL.

This course runs through the last half of the second semester.

109. Continuation of 108. Three credit hours. First semester. Prerequisite, course 108.

111-112. ADVANCED DYNAMO LABORATORY. Three credit hours. The year. Must be accompanied by course 109. Professor CALDWELL, Assistant Professor McOMBER.

HISTORY AND PHILOSOPHY OF EDUCATION

(Office, Old Mechanical Laboratory Building)

PROFESSOR GRAVES

FOR ADVANCED UNDERGRADUATES AND GRADUATES

101-102. HISTORY OF EDUCATION. Three credit hours. The year. Text: Graves's A History of Education, and Hoyt's Modern Education.

105-106. EDUCATIONAL CLASSICS. Two credit hours. The year. Prerequisite, course 101-102.

PRIMARILY FOR GRADUATES

107-108. HISTORY OF EUROPEAN SCHOOL SYSTEMS. One credit hour. The year. Prerequisite, courses 101-102 and 105-106.

121-122. SEMINAR IN THE HISTORY OF EDUCATION. One credit hour. Prerequisite, course 107-108.

MECHANICAL ENGINEERING

(Office, Room 244, Engineering Laboratory)

PROFESSOR MAGRUDER

129. THERMODYNAMICS. Two credit hours. First semester. Open only by permission of instructor. Professor MAGRUDER.

MECHANICS

(Office, Room 233, Mines Building)

PROFESSOR J. E. BOYD, ASSOCIATE PROFESSOR CODDINGTON, MR. GRIFFIN

101. STATICS, STRENGTH OF MATERIALS. Five credit hours. First semester. Prerequisite, Mathematics 142.

102. STRENGTH OF MATERIALS, KINETICS AND HYDRAULICS. Five credit hours. Second semester. Prerequisite, Mechanics 101.

105-106. ADVANCED THEORETICAL MECHANICS. Three credit hours. The year. For graduates and advanced undergraduates. Hours to be arranged. Prerequisite, Mechanics 102 and Differential Equations.

METALLURGY AND MINERALOGY

(Office, School of Mines Building)

PROFESSOR N. W. LORD, PROFESSOR SOMERMEIER, ASSISTANT
PROFESSOR DEMOREST

104. MINERALOGY. Two credit hours. Second semester. Prerequisites, Mathematics 121-122, or equivalent, and Chemistry 106 or 110. Professor LORD.

106. METALLURGICAL LABORATORY. Four credit hours. Second semester. Prerequisite, Physics 103-104, and two years of Chemistry. Assistant Professor DEMOREST.

108. DETERMINATIVE MINERALOGY. Three credit hours. Second semester. Prerequisite, course 104. Professor LORD, Assistant Professor DEMOREST.

GENERAL INFORMATION

THE BRYAN PRIZE

Through the generosity of Hon. William J. Bryan an annual prize of twenty-five dollars is offered for the best essay on the principles underlying the form of government of the United States. Competition for this prize is open to all students of the University. For further information, make inquiry of the head of the department of American History.

APPOINTMENT COMMITTEE

In order to serve the schools of the State, the Faculty has provided a committee, one of the duties of which is to assist graduates of the University to teaching positions for which they are best fitted. Any student of the University intending to teach is invited to enroll his name with the committee on a blank provided for that purpose. Blanks may be obtained from the Executive Office. Graduates of the University who are already engaged in teaching are also cordially invited to correspond with the Appointment Committee with a view to bettering their positions. Correspondence is invited from Boards of Education and from Superintendents and Principals of schools in need of teachers. No fee is charged for the services of the committee.

FEES

All fees must be paid at the opening of each semester as a condition of admission to classes.

TUITION—Tuition is free in this College, but registration is not complete until certain incidental and laboratory fees are paid. Also resident students who elect five

hours or less in the College of Law pay a fee of \$7.50 per semester, non-residents \$10.00; more than five hours, for resident students \$22.50, non-resident \$25.00 per semester.

INCIDENTAL FEE—The fee for students who are residents of Ohio is ten dollars a semester. For non-residents, the fee is fifteen dollars a semester. Children of non-resident Alumni pay the same fee as residents of Ohio.

Former students, who do not pay this fee until the third day of the first semester and the second day of the second semester, must pay one dollar additional. For each day of delinquency thereafter fifty cents is added.

LABORATORY FEES—A fee of two dollars a semester is charged for all laboratory courses using gas, water, electrical current or steam. For all other courses which are not purely lecture courses, a laboratory fee of one dollar is charged. Students are required to pay for all materials consumed in laboratory work. To meet the cost of these materials a deposit of five dollars for each course requiring such supplies is made at the Bursar's office before the work is begun. In Chemistry and Bacteriology the deposit is ten dollars. All laboratory supplies are sold at the General Store Room, Chemistry Hall, to students at first cost to the University, and charged against the deposits. Any unused part of the deposit is refunded at the end of the semester.

OTHER EXPENSES

LOCKER FEE—The gymnasium is free to all students, but those desiring to use a locker are charged a fee of two dollars a semester, which includes the cost of towels.

CADET UNIFORM—The uniform with which the members of the regiment are required to provide themselves costs (without overcoat) about thirteen dollars.

It is quiet in pattern, and may be worn in place of civilian dress.

THE OHIO UNION—A fee of one dollar a semester is paid by all male students at registration. This entitles the student to all the privileges of the Union, consistent with the Constitution and House Rules governing it.

AUDITOR'S FEE—On presentation to the Bursar of the written consent of the head of a department, and on the payment to the Bursar of an auditor's fee of one dollar, any person engaged in teaching is permitted to attend, in that department, any class or course (not to exceed three hours a week for one-half year) which is announced to be especially for teachers or those intending to teach.

GRADUATION FEE—A fee of five dollars, to cover expense of graduation and diploma, is required of each person receiving one of the ordinary degrees from the University, and this fee must be paid before the degree is conferred. A like fee of ten dollars is charged each person receiving one of the higher graduate degrees.

ROOMS AND BOARD—Furnished rooms can be rented at one dollar to one dollar and a half per week for each student, when two students occupy a room. Board at the restaurants and boarding clubs near the University costs from two dollars and seventy-five cents to three dollars and fifty cents per week. Board, with furnished rooms, can be obtained in private families at rates varying from five to six dollars per week.

WOMEN STUDENTS

As far as possible women students should make arrangements for room and board in advance. An effort will be made to secure suitable accommodations in private residences for such as cannot be accommodated in Oxley Hall. Prospective women students should address the House Superintendent, Oxley Hall, Columbus, Ohio.

TEXT-BOOKS—Students should not purchase text-books until they are advised by the instructors of their respective classes.

In order to meet all the necessary expenses of registration, books, uniform and other expenditures incident to securing a room and board, a student should come prepared to expend about fifty dollars during the first ten days of a semester. After that period his board and room rent will constitute the major part of his expenses.

SELF SUPPORT

There is a large amount of work on the University farm and campus and in the gardens, orchards, and green-houses, which can be done by students, for which they are paid at current rates for such labor. By this means, together with what can be earned by steady labor during the summer vacation, a considerable number of students defray all their expenses.

Preference is given to students who are willing to devote a certain number of hours each day to the work assigned.

Work cannot be promised to all applicants, and is not guaranteed to any.

Applications for employment should be made to the Superintendent of the University farm, or at the Executive office.

FELLOWSHIPS

To encourage graduates of this University, and of other approved institutions of learning, to continue their studies and to undertake advanced work leading to the higher degrees, the University has established fellowships in several departments. These demand about one-half of

the time of the fellow for laboratory or other assistance—as far as possible along the line of his graduate study. The remainder of his time is given to graduate work. The fellowships pay from \$150 to \$300 for the University year.

CHRISTIAN ASSOCIATIONS

The Young Men's Christian Association has come to occupy a prominent place in university life. It has a membership of about five hundred men, and is affiliated with the World's Student Christian Federation.

Religious meetings are held for men on Sunday afternoon; there are also frequent meetings for the promotion of social intercourse and good fellowship. Courses in systematic Bible study and in modern missions are offered. A most helpful feature of the work is that in the interest of new students at the opening of the school year. Desirable rooms and boarding places are found and posted for reference at the Association Office. Representatives of the Association meet the trains, assist students in finding satisfactory locations, and endeavor in every way to make them feel at home. The Employment Bureau helps to find work.

A copy of the Students' Handbook, giving information about Columbus, the University, and the various college organizations and activities, will be sent free to prospective students. For this handbook or for further information, address the General Secretary of the O. S. U. Y. M. C. A., University Campus, Columbus, Ohio.

The Young Women's Christian Association holds religious meetings regularly at noon on Tuesdays. This organization is active and efficient in working for the highest interests of the young women.

The Ohio State University Bulletin is issued at least fifteen times during the academic year; monthly in October, November, and June, and bi-weekly in December, January, February, March, April, and May.

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The Ohio State University Bulletin

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FEBRUARY, 1912

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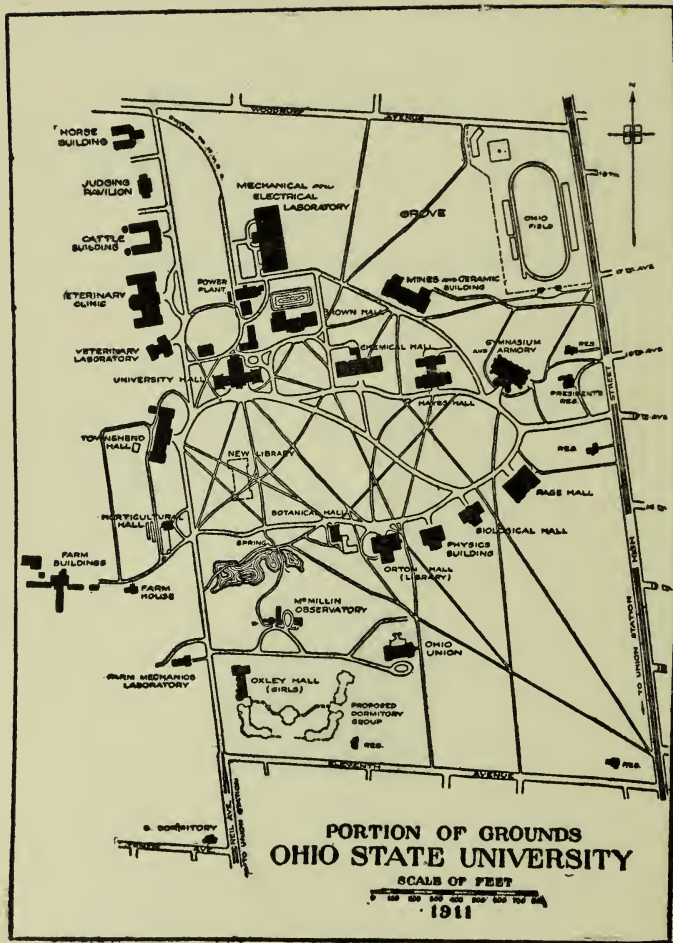
COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE

1912-13



PUBLISHED BY THE UNIVERSITY AT COLUMBUS

Entered as second-class matter November 17, 1905, at the postoffice
at Columbus, Ohio, under Act of Congress, July 16, 1894



THE OHIO STATE UNIVERSITY

The Ohio State University, located in Columbus, is a part of the public educational facilities maintained by the State. It comprises seven colleges and a Graduate School:

The College of Agriculture,
The College of Arts, Philosophy, and Science,
The College of Education,
The College of Engineering,
The College of Law,
The College of Pharmacy,
The College of Veterinary Medicine,
The Graduate School.

This bulletin is devoted exclusively to the work of the College of Arts, Philosophy and Science, offered during the academic year, beginning September, 1912.

[**Note:** The University publishes a bulletin describing the work of each of the Colleges. Copies may be obtained by addressing W. E. Mann, University Editor, Columbus, Ohio, and stating the college in which the writer is interested.]

UNIVERSITY CALENDAR

1912

Entrance examinations (8 a. m.), Tuesday to Saturday, June 4 to 8.

Summer Session, June 17 to August 9.

Entrance examinations (8 a. m.), Tuesday to Saturday, September 10 to 14.

First semester begins—Registration Day—Tuesday, September 17.

President's Annual Address, Friday, September 20, 11 a. m.

Latest date of admission to candidacy for a degree at the Commencement of June, 1913, Tuesday, October 1.

Date for mid-semester reports to the Deans concerning delinquent students, Saturday, November 23.

Thanksgiving recess, begins November 27, 6 p. m., and ends December 2, 8 a. m.

Latest date for filing thesis subject, December 16.

Christmas recess begins Friday, December 20, 6 p. m.

1913

Christmas recess ends Thursday, January 2, 8 a. m.

Final examinations, first semester, January 31 to February 6.

First semester ends Thursday, February 6, 6 p. m.

Second semester begins—Registration Day—Tuesday, February 11.

Washington's Birthday, Saturday, February 22.

Easter recess, Thursday, March 20, 6 p. m. until Tuesday, March 25, 8 a. m.

Date for mid-semester reports to the Deans concerning delinquent students, Saturday, March 29.

Competitive Drill—Cadet Regiment—Saturday, May 24.

Memorial Day, Friday, May 30.

Final examinations, Thursday, May 29 to Thursday, June 5
(Except Friday, May 30)

Entrance examinations (8 a. m.), Tuesday to Saturday, June 3 to 7.

Commencement, Wednesday, June 11.

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE

This College comprises those courses of study that are designed to furnish a liberal education in the languages and literatures, the sciences, mathematics, philosophy, history, politics, economics, sociology, and preparation for commerce, law, medicine, philanthropic work, administration, and journalism.

DEPARTMENTS

The College of Arts, Philosophy, and Science includes work in the following departments: American History, Anatomy and Physiology, Astronomy, Bacteriology, Botany, Chemistry, Economics and Sociology, English, European History, Geology, German, Greek Language and Literature, Latin Language and Literature, Mathematics, Military Science and Tactics, Philosophy, Physical Education, Physics, Political Science, Psychology, Romance Languages and Literatures, Zoology and Entomology. The following departments also offer a limited amount of work as elective studies in the College of Arts, Philosophy and Science: Architecture, Art, Civil Engineering, Domestic Science, Engineering Drawing, Electrical Engineering, History and Philosophy of Education, Mechanical Engineering, Mechanics, Metallurgy and Mineralogy.

GRADUATE COURSES

The graduate instruction offered in Arts, Philosophy and Science is given in a separate Graduate School. A special bulletin describing the organization, admission requirements, and work of the Graduate School may be obtained on application to the University Editor.

SUMMER SESSION

The University conducts a summer session for eight weeks. A number of courses are offered, for which credits are given in this College. As applicable to the graduate work, three summer sessions of full time work are required as the equivalent

of a year's residence, provided that the work undertaken in the summer session is continued between sessions and supervised by the departments concerned and a detailed statement of such (ad interim) work satisfactory to the committee on graduate work is filed with the committee. Otherwise, four summer sessions are regarded as equivalent to a year's residence.

No undergraduate will be admitted to candidacy for a degree at any Commencement who has not done the last year of work required for the degree in residence at that college of this University in which the degree is sought, two summer sessions being considered the equivalent of one semester, and four summer sessions the equivalent of the year, and no student will be registered in such candidacy later than the first day of October.

THE LAKE LABORATORY

The University maintains a Lake Laboratory at Sandusky during the summer vacation, which is designed to provide opportunity for the investigation of the biology of the lake region, and for giving certain courses of instruction in the departments of Botany and Zoology and Entomology. For further information write for a special bulletin, which may be obtained from the University Editor.

BUSINESS ADMINISTRATION AND SOCIAL SERVICE OR JOURNALISM

Students desiring to prepare themselves to pursue a business career or to engage in philanthropic work or journalism are invited to send to the University Editor for special bulletins describing these courses.

FACULTY AND INSTRUCTORS

WILLIAM OXLEY THOMPSON, D. D., LL. D., President of the University.

JOSEPH VILLIERS DENNEY, M. A., DEAN and Professor of English.

EDGAR SHUGERT INGRAHAM, Ph. D., SECRETARY and Associate Professor of Romance Languages.

WILLIAM HENRY SCOTT, LL. D., Emeritus Professor of Philosophy.

SAMUEL CARROLL DERBY, A. M., Professor of the Latin Language and Literature.

JOSIAH RENICK SMITH, A. M., Professor of the Greek Language and Literature.

†BENJAMIN FRANKLIN THOMAS, Ph. D., Professor of Physics.

GEORGE WELLS KNIGHT, Ph. D., Professor of American History.

*ROSSER DANIEL BOHANNAN, B. Sc., C. E., E. M., Professor of Mathematics.

ALBERT MARTIN BLEILE, M. D., Professor of Anatomy and Physiology.

BENJAMIN LESTER BOWEN, Ph. D., Professor of Romance Languages and Literatures.

WILLIAM MCPHERSON, D. Sc., Ph. D., Professor of Chemistry.

HERBERT OSBORN, M. Sc., Professor of Zoology and Entomology, and Director of the Lake Laboratory.

† Died July 4, 1911.

* Absent on leave, 1912-1913.

HENRY CURWEN LORD, B. Sc., F. R. A. S., Professor of Astronomy, and Director of the Emerson McMillin Observatory.

CHARLES SMITH PROSSER, D. Sc., Ph. D., Professor of Geology.

JOHN ADAMS BOWNOCKER, D. Sc., Professor of Inorganic Geology, and Curator of the Museum.

*ALFRED DODGE COLE, M. A., Professor of Physics.

WILBUR HENRY SIEBERT, M. A., Professor of European History.

M. BLAKEMORE EVANS, Ph. D., Professor of German.

DAVID R. MAJOR, Ph. D., Professor of Psychology.

CHARLES BRADFIELD MORREY, B. A., M. D., Professor of Bacteriology.

JAMES EDWARD HAGERTY, Ph. D., Professor of Economics and Sociology.

*CHARLES A. BRUCE, B. A., Professor of Romance Languages and Literatures.

GEORGE WASHINGTON MCCOARD, M. A., Professor of Mathematics.

ARTHUR WINFRED HODGMAN, Ph. D., Professor of the Classical Languages and Literatures.

WILLIAM EDWARDS HENDERSON, Ph. D., Professor of Inorganic and Physical Chemistry.

JOSEPH RUSSELL TAYLOR, M. A., Professor of English.

CHARLES WILLIAM FOULK, B. A., Professor of Analytical Chemistry.

*THOMAS HARVEY HAINES, Ph. D., Professor of Psychology.

*Absent on leave, 1912-1913.

FRANCIS LEROY LANDACRE, B. A., Professor of Zoology and Entomology.

WALLACE STEDMAN ELLEN, Ph. D., Professor of the Classical Languages.

MATTHEW BROWN HAMMOND, Ph. D., Professor of Economics and Sociology.

HARRY WALDO KUHN, Ph. D., Professor of Mathematics.

GEORGE HARLEY MCKNIGHT, Ph. D., Professor of English.

KARL DALE SWARTZEL, M. Sc., Professor of Mathematics.

JOSEPH ALEXANDER LEIGHTON, Ph. D., Professor of Philosophy.

ARTHUR ERNEST DAVIES, Ph. D., Professor of Philosophy.

*HENRY RUSSELL SPENCER, Ph. D., Professor of Political Science.

WILLIAM LLOYD EVANS, Ph. D., Professor of Chemistry.

EUGENE FRANKLIN MCCAMPBELL, Ph. D., Professor of Bacteriology.

JOHN H. SCHAFFNER, M. A., M. S., Professor of Botany.

WILLIAM FRANKLIN GEPHART, Ph. D., Professor of Economics and Sociology.

JAMES STEWART HINE, B. Sc., Associate Professor of Zoology and Entomology.

WILLIAM LUCIUS GRAVES, M. A., Associate Professor of English.

BERTHOLD AUGUST EISENLOHR, M. A., Associate Professor of German.

EDGAR HOLMES MCNEAL, Ph. D., Associate Professor of European History.

FAYETTE AVERY MCKENZIE, Ph. D., Associate Professor of Economics and Sociology.

*Absent on leave, 1912-1913.

JAMES RENWICK WITHROW, Ph. D., Associate Professor of Chemistry.

EDMUND SEWALL MANSON, JR., S. M., Associate Professor of Astronomy.

RAYMOND JESSE SEYMOUR, M. S., M. D., Associate Professor of Anatomy and Physiology.

HOMER C. HOCKETT, B. L., Associate Professor of American History.

*CARSON SAMUEL DUNCAN, M. A., Assistant Professor of English.

JOHN B. PRESTON, M. A., Assistant Professor of Mathematics.

ROBERT F. GRIGGS, M. A., Assistant Professor of Botany.

FREDERICK COLUMBUS BLAKE, Ph. D., Assistant Professor of Physics.

OLIVER CARY LOCKHART, M. A., Assistant Professor of Economics and Sociology.

EDWIN LONG BECK, M. A., Assistant Professor of English.

LOUIS ALBION COOPER, B. A., Assistant Professor of English.

ROBERT F. EARHART, Ph. D., Assistant Professor of Physics.

FRANCIS W. COKER, Ph. D., Assistant Professor of Political Science.

CLARENCE PERKINS, Ph. D., Assistant Professor of European History.

ALFRED DACHNOWSKI, Ph. D., Assistant Professor of Botany.

*Absent on leave, 1912-1913.

CHARLES CLIFFORD HUNTINGTON, M. A., Assistant Professor of Economics and Sociology.

ALPHEUS WILSON SMITH, Ph. D., Assistant Professor of Physics.

EDWIN POE DURRANT, M. A., Assistant Professor of Anatomy and Physiology.

THEODORE ELY HAMILTON, Ph. D., Assistant Professor of Romance Languages.

CHARLES E. BLANCHARD, LL. B., Assistant Professor of English.

CARL JOSEPH WEST, M. A., Assistant Professor of Mathematics.

HARRY F. HARRINGTON, M. A., Assistant Professor of English.

SARAH TRACY BARROWS, M. L., Assistant Professor of German.

LUDWIG LEWISOHN, A. M., Assistant Professor of German.

OLIVE JONES, B. A., Librarian.

WILLIAM THOMAS MAGRUDER, M. E., Professor of Mechanical Engineering.

GEORGE L. CONVERSE, Captain (Retired), U. S. A., Professor of Military Science and Tactics.

FRANCIS CARY CALDWELL, A. B., M. E., Professor of Electrical Engineering.

*ALFRED VIVIAN, G. Ph., Professor of Agricultural Chemistry.

JAMES ELLSWORTH BOYD, M. S., Professor of Mechanics.

THOMAS EWING FRENCH, M. E., Professor of Engineering Drawing.

*Absent on leave, 1912-1913.

FRANK PIERREPONT GRAVES, Ph. D., Professor of the History and Philosophy of Education.

H. SHINDLE WINGERT, M. D., Professor of Physical Education.

RUTH AIMEE WARDALL, M. A., Professor of Domestic Science.

CHARLES LINCOLN ARNOLD, M. Sc., Associate Professor of Mathematics.

SAMUEL EUGENE RASOR, M. A., M. S., Associate Professor of Mathematics.

MARY REBECCA LAVER, Professor of Art.

THOMAS McDUGALL HILLS, Ph. B., Assistant Professor of Geology.

*MAY THOMAS, Ph. D., Assistant Professor of German.

JOHN R. CHAMBERLIN, Assistant Professor of Civil Engineering.

CHARLES CLEMENTS MORRIS, M. A., Assistant Professor of Mathematics.

GRACE MARIE BAREIS, B. A., Assistant Professor of Mathematics.

CHARLES SHEARD, M. A., Assistant Professor of Physics.

FREDERICA DETMERS, M. Sc., Instructor in Botany.

ROBERT OSCAR BUSEY, Ph. D., Instructor in German.

WILLIAM CLIFFORD MORSE, M. A., Instructor in Geology.

EXECUTIVE COMMITTEE

THE DEAN, *ex officio*; THE SECRETARY, *ex officio*;
PROFESSOR BLEILE, PROFESSOR LEIGHTON, PROFESSOR W. L.
EVANS, and ASSOCIATE PROFESSOR HOCKETT.

* Absent on leave, first semester, 1912-1913.

ADMISSION

Applicants for admission must be at least sixteen years of age. The College is open on equal terms to both sexes.

THE ENTRANCE BOARD

The admission of students is in charge of the University Entrance Board, which determines the credits which shall be issued on all entrance examinations and certificates, and furnishes all desired information to applicants. Correspondence relating to admission should be addressed to the Entrance Board, Ohio State University, Columbus.

ADMISSION TO COURSES LEADING TO A DEGREE

There are two modes of admission—by examination and by certificate.

ADMISSION BY EXAMINATION

The Entrance Board will conduct entrance examinations June 4 to 8 and September 10 to 14, 1912. A part of the examinations may be taken in June and the remainder in September. All applicants for admission who are not graduates of an accredited or recognized secondary school or approved preparatory school, or who do not possess certificates from the State Board of School Examiners, must take examinations for admission.

Schedule of Examinations. The hours for examinations are 8 a. m. and 1 p. m. Students intending to take any of the examinations scheduled in any given half day must appear within one hour of the time set for the examination. Students applying for examination will first go to the office of the Entrance Board, 100 University Hall, for registration.

Tuesday	A. M.	History: Ancient and Medieval (to 814 A. D.), Medieval and Modern (after 814 A. D.), English.
"	P. M.	English Composition and Rhetoric, English Classics, Chemistry.
Wednesday	A. M.	Algebra, Physical Geography.
"	P. M.	Plane Geometry, German, Spanish.

Thursday	A. M.	Civil Government, Solid Geometry, Zoology.
"	P. M.	Beginning Latin and Caesar, Elements of Agriculture, Trigonometry, Commercial Geography.
Friday	A. M.	Physics, Physiology, Botany.
"	P. M.	American History, French, English Literature.
Saturday	A. M.	Vergil, Cicero, Domestic Science.

A special bulletin of entrance information will be mailed on request. Address The University Editor.

ADMISSION BY CERTIFICATE

Applicants may be admitted without examination on presentation of properly indorsed certificates from such secondary schools as have been accredited or recognized by the University, or from approved normal schools, or from the State Board of School Examiners under the following provisions:

(a) If from secondary schools, the certificate must show that the applicant is a graduate in good standing of the school issuing it; and also must state in detail the studies pursued, the text-books used, the amount of work done in each study, the amount of time devoted to it, and the fact that the applicant has passed in the work.

(b) Any entrance requirement not covered by a certificate must be met by examination.

Blank certificates may be obtained by addressing the Secretary of the Entrance Board. Certificates should be filled out and returned to the University by the proper school official as early as possible after the close of schools in June.

REQUIREMENTS BY UNITS

A unit is the equivalent of a course of study continuing through a school year and covering, in the aggregate, not less than one hundred and twenty clock-hours of classroom work, two hours of manual training or laboratory work being equivalent to one hour of class-room work.

To obtain full standing in this College, applicants under twenty-one years of age must have credit by examination or certificate for fifteen units—of which three shall be English,

one, history, two, mathematics, one, physics or chemistry, and four, language other than English. The fifteen units shall be selected from the following list:

English1, 2, 3, or 4 units
(Foreign students may substitute their native language for the English requirement.)

American History or American History and Civil Government 1 unit
Ancient History (Greek and Roman) and Medieval History to 814 A. D..... 1 unit
Medieval and Modern History (from 814 A. D. to the present)..... 1 unit
(For the present, General History may be counted as a unit, but not in addition to Ancient or Medieval and Modern History.)

English History..... 1 unit
Algebra (through quadratics)..... 1 unit
Algebra (beyond quadratics)..... $\frac{1}{2}$ unit
Geometry (plane)..... 1 unit
Geometry (solid)..... $\frac{1}{2}$ unit
Trigonometry $\frac{1}{2}$ unit
Latin2, 3, or 4 units
Greek2, 3, or 4 units
German2, 3, or 4 units
French2, 3, or 4 units
Spanish2, 3, or 4 units
(Not less than two units of any foreign language will be accepted.)

Physics 1 unit
Chemistry 1 unit
Physical Geography..... 1 unit
Zoology 1 unit
Botany 1 unit

Physical Geography	}	For the present any two of these may be counted together as. 1 unit
Zoology		
Botany		
Physiology		

Agriculture	}	The Entrance Board
Free-hand Drawing		may, after investigat-
Manual Training		ing each claim, grant
Domestic Science		a total credit of not
Commercial Geography		to exceed.....2 units

No student under twenty-one years of age will be admitted to college if he is conditioned in more than two of the fifteen units. All entrance conditions must be removed within two years after admission.

Students over twenty-one years of age are admitted in accordance with the provisions stated under "Admission to Special Studies."

The extent and character of the work required in each subject mentioned above is explained in a special bulletin, entitled "Definition of Entrance Units," which will be sent to any address upon request. In general, it may be stated that the definitions of the North Central Association of Colleges and Secondary Schools are accepted as our definitions.

REMOVAL OF ENTRANCE CONDITIONS

Entrance conditions may be removed (1) by examination conducted only by the Entrance Board; or (2) by the substitution by the Entrance Board of excess work in other approved subjects; or (3) by the substitution of other work of equivalent amount to be done in the University; and it shall be the duty of the secretaries in their respective colleges to assign to each student having entrance conditions outstanding at the end of the Freshman year such college courses for the following years as may be deemed a fair equivalent for the work in which the student has entrance conditions. But a student who has completed a collegiate course is not eligible for entrance examinations upon the same topic, unless it is a fixed requirement in the college in which he is registered. (Faculty Rule 97.)

ADMISSION WITH ADVANCED STANDING

Applicants who have completed at least one year's work of collegiate rank in an approved college, and who bring official and explicit certificates describing their courses of study and scholarship, and letters of honorable dismissal, will be admitted in accordance with either of two plans:

(1) The entrance units on which the candidate was admitted to the approved college will be accepted at their face value; deficiencies will be made up from the college credits presented, and advanced credit will be given for any remaining satisfactory work; or

(2) One year's work will be accepted in lieu of entrance units and the candidate will be admitted without examination and without conditions, but without any advanced standing on the year's work.

Applicants who have completed less than one year's work in an approved college must satisfy the entrance requirements in the usual way, and will then be given credit for any satisfactory work for which they can offer certificates.

ADMISSION TO SPECIAL STUDIES

Students who desire to pursue special lines of work and do not desire to become candidates for a degree, will be admitted on the following conditions:

1. The regular entrance requirements must be satisfied.

2. But applicants who are not less than twenty-one years of age, after obtaining credit for the common English branches and for such other subjects as may be necessary to qualify them for the classes that they wish to enter, may, on the presentation of satisfactory reasons, be admitted to any class in the college; provided, that if any student who has been admitted on these conditions afterwards becomes a candidate for a degree, he shall pass the omitted entrance examinations at least twelve months before the degree is conferred.

3. Before entering the College, students desiring to pursue special work are required to lay before the Executive Committee, for approval or modification, a written statement of the end they have in view, the studies proposed for the attainment of that end, and the probable period of attendance. Such students will be held as strictly to their accepted schemes of work as are the regular undergraduates to the course of study.

4. Permission to enter as special undergraduates will be refused to all who fail to give satisfactory evidence of definiteness of purpose, and will be withdrawn whenever the conditions on which it was granted cease to exist.

REQUIREMENTS FOR GRADUATION**The Group Elective System**

The work of the College of Arts, Philosophy and Science is organized on the group elective system. About one-third of every student's curriculum is prescribed by the regulations given below. Each student is required to lay sufficiently broad foundations in English, other languages, the sciences, history, or economics, and in mathematics, philosophy, or psychology. The remaining two-thirds of the student's work is elective.

On satisfactory completion of 120 semester hours under the regulations prescribed below, the student will be recommended for the degree of Bachelor of Arts.

The departments in which credit may be obtained are arranged in the following four groups:

(A) Languages and Literatures

English, German, Greek Language and Literature, Latin Language and Literature, Romance Languages and Literatures.

(B) Natural Sciences

Anatomy and Physiology, Astronomy, Bacteriology, Botany, Chemistry, Geology, Physics, Zoology and Entomology.

(C) Social Sciences

American History, Economics and Sociology, European History, Political Science.

(D) Mathematics—Philosophy

Mathematics, Philosophy, Psychology.

Courses Open to Freshmen

English 101-104, 2 credit hours; English 131-134 (or 132-133), 3 credit hours.

French 101-102, 4 credit hours; French 103-104 (for students who enter with two units in French), 4 credit hours.

German 101-102, 4 credit hours; German 103-104 (for students who enter with two units in German), 4 credit hours.

Greek 101-102, 4 credit hours; Greek 105-106 (for students who enter with two units in Greek), 4 credit hours.

Latin 101-102 (for students who enter with three or four units in Latin), 4 credit hours.

Spanish 101-102, 4 credit hours; Spanish 103-104 (for students who enter with two units in Spanish), 4 credit hours.

Botany 101-102, 4 credit hours.

Zoology 101-102, 3 credit hours.

Astronomy 101-102, 3 credit hours.

Chemistry 105-106, 4 credit hours; Chemistry 109-110 (for students who enter with one unit in Chemistry), 4 credit hours.

Geology 101-102, 3 credit hours.

Physics 103-104, 4 credit hours; Physics 105-106 (for students who enter with one unit in Physics), 4 credit hours.

American History 101-102, 3 credit hours.

Economics 131-134, 3 credit hours.

European History 101-102, 3 credit hours.

Mathematics 121-122, 3 credit hours; Mathematics 131-132, 5 credit hours; Mathematics 123-124, 1 credit hour.

Philosophy 101-102, 3 credit hours.

Psychology 101-102, 3 credit hours.

Drill; Gymnasium.

Regulations

(1) Cadet service is required of all men during the first and second years.

Physical Education is prescribed for all men during the first year and for all women during the first and second years.

(2) English 101-104 is to be taken by all students, ordinarily in the first year.

(3) In each of the four groups named above the student must secure credit for at least six semester hours (a year course), this requirement to be satisfied in the first and second years.

(4) Sixteen hour of credit in languages other than English are required. But for students who enter with six units of credit in languages other than English, the college requirement is eight instead of sixteen hours. In high school and college together the student must have credit in at least two languages other than English.

(5) Every student is required (a) to secure credit for at least six semester hours in a biological science (Botany, Physiology, or Zoology), and (b) at least six semester hours in a non-biological science (Astronomy, Chemistry, Geology or Physics). But students who are credited on admission with one

unit in Botany or one unit in Zoology are excused from requirement (a) and students who are credited on admission with both one unit in Chemistry and one unit in Physics are excused from requirement (b).

(6) At least 36 of the 120 hours required for the degree must be in some one group, and at least 18 in some other one group. In no one of the groups may more than 60 hours be credited for the degree, exclusive of the requirement made in Regulations 2, 3, 4, and 5 above.

(7) At least 36 of the 120 hours required for the degree must be in courses not open to Freshmen.

(8) Courses open to Freshmen, if elected by Seniors, give credit diminished by one hour.

(9) Each year's work must consist of 15 or 16 hours work each semester. On petition to the Executive Committee a student who shows exceptional proficiency may take from one to three extra hours, but in no case will more than 18 hours be permitted. No extra hours will be granted to a first-year student or to a student having conditions outstanding in his Entrance or College record.

RULE GOVERNING ELECTIONS

Each student enrolled in the College of Arts, Philosophy and Science must file at the Registrar's office not later than June 1 of each year a complete statement of the courses he wishes to enter the following year. Blanks for this purpose may be obtained of the Registrar.

FEE FOR CHANGES IN SUBJECTS OR SCHEDULE

After ten days from registration day, changes in subjects or schedule, if made at the instance of the student, shall be made only upon the payment of a fee of \$1.00 for each change. Requests for changes for the second semester must be filed with the College Secretary on or before the third day of the semester, or the fee of \$1.00 will be assessed for each change made at registration at the request of the student.

STUDENT ADVISERS

The Faculty of Arts, Philosophy and Science has provided a system of advisers, the chief objects of which are: (1) to assist the undergraduates in choosing studies that will result

in a well-rounded course and will achieve most economically the purpose which the student has in view in his course; (2) to promote closer personal relations between student and instructor and thus to aid the student, so far as possible, in all matters connected with his university life. On entering the University each student is assigned by the Executive Committee to a temporary adviser to whom he is cordially invited to resort for counsel as often as the need arises. Before the close of the year each student chooses a permanent adviser. Each student is required to secure the signature of his adviser to his election card in June of each year, and to petitions, at any time during the year, for a change in work or for increase or diminution of work.

THE ARTS-LAW COURSE

Students desiring the degree of Bachelor of Arts in the College of Arts, Philosophy and Science, and the degree of Bachelor of Laws in the College of Law, may, by complying with the regulations below obtain the two degrees in six years.

On satisfactory completion of the three years' work, comprising ninety-six semester hours, in the College of Arts, Philosophy and Science, and the first year of the course in the College of Law of this University, under the usual regulations governing work in each of the two colleges (except as indicated below), the student will be recommended for the degree of Bachelor of Arts.

All regulations applying to students in the College of Arts, Philosophy and Science apply in the combined Arts-Law course except as modified by the following statements:

1. No student is eligible for the combined Arts-Law course who has not been a student in the College of Arts, Philosophy and Science of this University at least one full year.

2. At least thirty-six of the ninety-six semester hours of Arts College subjects required for the degree in Arts must be in the Social Sciences Group and eighteen in some other one group. Of the work in the Social Sciences Group, at least eighteen hours must be in advanced courses. In no one of the groups may more than forty hours be credited for the degree, exclusive of the requirements made in Regulations 2, 3, 4 and 5, page 19.

3. At least thirty-six of the ninety-six hours of Arts College subjects required for the degree must be in courses not open to freshmen.

4. Business Law (Economics 143) may not be counted towards the degree in the combined Arts-Law course.

5. In order to have the first year of the Course in Law counted toward the Arts degree, the student must have maintained a uniform record of good scholarship in the College of Arts, Philosophy and Science and have completed the entire requisite ninety-six hours of work in that College before the work in the College of Law is entered upon.

5. Application for the privilege of the combined course must be filed with the Registrar not later than June 1 of the year preceding the student's proposed entrance upon the work in the Law College. The question of the applicant's eligibility to the combined course will be determined by the Executive Committee of the Arts College.

No credit in the College of Arts, Philosophy and Science will be given for work done in the College of Law except as above provided, but regular fourth-year students in the former college may, by special permission, take a limited amount of the work in the College of Law without credit in the College of Arts, Philosophy and Science.

The work of all students taking studies in the two colleges at the same time is under the jurisdiction of a joint committee, consisting of Professor Denney, Dean of the College of Arts, Philosophy, and Science; Professor Adams, Dean of the College of Law; Professors Siebert, Page, and Bruce.

THE ARTS-EDUCATION COURSE

Two Degrees

Students who have received credits for one hundred and forty hours and who have met all requirements, both for a degree in the College of Arts, Philosophy and Science, and for a degree in the College of Education, will be granted the degree of Bachelor of Arts by the former college and the degree of Bachelor of Science in Education by the latter college. Applicants for both degrees must register in both colleges.

THE ARTS-ENGINEERING COURSE

The entrance requirements for the combined course shall be the same as for the College of Arts except that one unit of Physics is required.

A candidate for the degree of Bachelor of Arts, while registered in the College of Arts, Philosophy and Science, may also register in the College of Engineering, provided that at the time of seeking such registration in the College of Engineering he has ninety semester hours to his credit in the College of Arts, Philosophy and Science, exclusive of the credit hours in Military Drill and Physical Education, and including the following subjects:

Mathematics, 131, 132, 141, 142, 20 hours; Chemistry, 105 and 106, or 109 and 110, 8 hours; Modern Language, French, German or Spanish, 16 hours; English 101 and 104, 4 hours; Social Science, 6 hours; Biological Science, 6 hours; Physics, 113 and 114, 10 hours; Engineering Drawing, 101 and 102, 5 hours; Arts Electives, 15 hours; total, 90 hours.

Eighty semester hours of the above work shall be exclusive of those subjects published in the appendix of this bulletin.

When the candidate has obtained 124 semester hours in the two colleges exclusive of Military Drill and Physical Education, 100 semester hours of which shall be subjects accepted by the Arts College, and exclusive of those published in the appendix of the Arts College bulletin, the candidate shall receive the degree of Bachelor of Arts. This will ordinarily be at the end of one year's residence in the College of Engineering. At least six semester hours, other than Mechanics, of the above mentioned 100 hours, must have been earned during the first year of residence in the College of Engineering. At the end of two more years, by doing the regular amount of work, the candidate will have completed the requirements of any one of the Engineering degrees, and will be recommended for the appropriate degree.

ANNOUNCEMENTS OF DEPARTMENTS

AMERICAN HISTORY

(Office, Room 207, University Hall)

PROFESSOR KNIGHT, ASSOCIATE PROFESSOR HOCKETT

For Undergraduates

101-102. Political History of the United States. Three credit hours. The year. M., W., F., at 8, 9, 1; Tu., Th., Sat., at 11. Professor Knight, Associate Professor Hockett, Assistant Professor Coker.

An outline course, covering the period 1600-1910, considering political, economic, and personal aspects of American History from the origins to the present day. The Epochs series, by Thwaites, Hart and Wilson, are used as text-books, supplemented by outside reading. Recitations and reports. This must precede all other courses in American history.

103-104. The American Colonies, 1600-1763. Two credit hours. The year. Tu., Th., at 9. Associate Professor Hockett.

A course in the general history of the English colonies in America, with especial emphasis on European conditions affecting colonization, the development of government in the several colonies, and relations with the mother country. Lectures, quiz, and reports.

107-108. Constitutional History of the United States. Two credit hours. The year. Tu., Th., at 11. Associate Professor Hockett.

A careful study of the origin and growth of the federal constitution. Beginning with the formulation of the constitution by the Convention of 1787, the course follows its development as interpreted by the executive, congress, and the courts, in dealing with such questions as the acquisition of territory, internal improvements, the tariff, United States bank, slavery, relations of the nation and the states. Lectures, quiz, and reports. Given biennially, alternating with Course 109-110.

***109-110. Political Parties in the United States.** Two credit hours. The year. Associate Professor Hockett.

* Not given in 1912-1913.

A detailed study of the rise, progress, and decline of the several parties, with special reference to their relations to general social and economic conditions. Lectures, quiz, and reports. Given biennially, alternating with Course 107-108.

For Graduates and Advanced Undergraduates

For all courses in this group, the prerequisite is four semesters in the Social Sciences group, of which at least two must be in American history.

105-106. The Revolutionary and Critical Period, 1763-1787. Two credit hours. The year. M., F., at 10. Professor Spencer

An examination of the constitutional relations of the American colonies to the British empire; of the political, commercial, and personal causes of the revolt, and the process by which they co-operated to bring about separation; of the radical movement and the reaction from it; of the constructive elaboration of written constitutions by the states and for the Union. Lectures, quiz, and reports.

111. The Slavery Struggle to 1854. Three credit hours. First semester. Given biennially, alternating with Course 113. M., W., F., at 2. Professor Knight.

112. The Slavery Struggle and its Results, 1854-1900. Three credit hours. Second semester. Given biennially, alternating with Course 114. M., W., F., at 2. Professor Knight.

Courses 111 and 112 comprise a detailed study of the development of slavery in its connection with and influence upon the constitutional and political history of the country, the rise and fall of parties, and the divergence of the sections; its relation to the Civil War; the results of the struggle traced in the reconstruction of the Southern states and the readjustment of society and the states to the new status of the negro. Lectures, quiz, and reports.

***113. The History of American Diplomacy, 1776-1850.** Three credit hours. First semester. Given biennially, alternating with Course 111. Professor Knight.

***114. American Diplomatic History and Problems, 1850-1910.** Three credit hours. Second semester. Given Biennially, alternating with Course 112. Professor Knight.

* Not given in 1912-1913.

Courses 113 and 114 comprise a systematic study of the diplomacy and foreign relations of the United States; the birth, evolution, and variations of the foreign policy of the country in territorial, commercial, and continental subjects, with a consideration of recent important diplomatic problems in this field. Lectures, quiz, and reports.

***115-116. The History of the West.** Three credit hours. The year. Associate Professor Hockett.

This course studies the westward advance of population since early colonial times, dealing with the causes of the movement, conditions affecting it, the development of new communities, and the influence of this western growth upon national history and institutions. The course is essentially a study of the growth of American society. Lectures, quiz, and assigned readings.

119-120. Proseminar in Political History. Two credit hours. The year. Time to be arranged. Prerequisite, four semesters in American history. Associate Professor Hockett.

The work of the Proseminar for the year 1912-1913 will consist of practise in simple historical methods, concluding with the preparation by each student of an original research topic.

For Graduates Only

***201. Reconstruction of the South, 1862-1870.** Two credit hours. First semester Professor Knight.

An intensive study of the reconstruction era, the action of the national executive and congress and the installation of the reconstructed state governments.

***202. Political History of the South, 1870-1900.** Two hours. Second semester. Professor Knight.

A detailed study of the career of the reconstructed state governments, the failure and undoing of reconstruction, and the influence of the era upon national history.

203-204. The United States and Latin America, 1800-1905. Two credit hours. The year. W., F., at 3. Professor Knight.

A study of the diplomatic and political history, and of the problems and policies, of the United States in relation to Mexico,

* Not given in 1912-1913.

Central and South America, and Cuba. This course alternates biennially with courses 201 and 202.

205. Graduate Seminar in American History. Two credit hours. First semester. M., at 3. Professor Knight.

206. Graduate Seminar in American History. Two credit hours. Second semester. M., at 3. Professor Knight.

The field of investigation and co-operative study for 1912-1913 will be the administration of Buchanan.

ANATOMY AND PHYSIOLOGY

(Office, Room 12, Biological Hall)

PROFESSOR BLEILE, ASSOCIATE PROFESSOR SEYMOUR, ASSISTANT PROFESSOR
DURRANT

101-102. Human Anatomy and Physiology. Three credit hours. The year. Must be preceded by a course in chemistry. M., W., F., at 8 and 9; Tu., Th., S., at 9. Professor Bleile, Associate Professor Seymour, Assistant Professor Durrant.

119-120. General Physiology. Three credit hours. The year. Arranged for students who have no credit in chemistry. Tu., Th., Sat., at 9. Professor Bleile.

(Students who have had chemistry will elect Course 101-102.)

104. Chemical Physiology. Three credit hours. Second semester. Th., F., 1 to 4. Professor Bleile.

105-106. Histology and Histo-Chemistry. Five credit hours. The year. M., Tu., W., 1 to 4. Professor Bleile, Associate Professor Seymour, Assistant Professor Durrant.

For Advanced Undergraduates and Graduates

109-110. Physiological Laboratory. Three credit hours. Time to be arranged. The year. Professor Bleile.

111-112. Physiological Laboratory. Five credit hours. Time to be arranged. The year. Professor Bleile.

115. Advanced Physiology. Circulation, digestion, and respiration. Three credit hours. First semester. Prerequisite, Physiology 101-102. M., W., F., at 11. Professor Bleile.

118. Advanced Physiology. The nervous system. Three credit hours. Second semester. M., W., F., at 11. Professor Bleile.

Exclusively for Graduates

201-202. Advanced Physiology. Three credit hours. The year. Time to be arranged.

203-204. Advanced Physiology. Five credit hours. The year. Time to be arranged.

ANCIENT ART

(See Greek Languages and Literature)

ASTRONOMY

(Office, Emerson McMillin Observatory)

PROFESSOR LORD, ASSOCIATE PROFESSOR MANSON

101-102. General Astronomy. Three credit hours. The year. M., W., F., at 8 or 9. Associate Professor Manson.

104-105. Astronomy, Geodesy and Least Squares. Three credit hours. The year. Professor Lord, Associate Professor Manson.

This course begins in the second semester and continues through the first semester of the following year. Prerequisite, the calculus.

107-108. Advanced Astronomy. Three to five credit hours. The year. Prerequisite, the calculus. Professor Lord.

109-110. The Theory of Lenses. Four credit hours. The year. Prerequisite, the calculus. Professor Lord.

A course in applied optics, beginning with the Gaussian theory of lenses and followed by a complete discussion to terms of the second order of spherical aberration, central and oblique refraction, coma (Von Seidel's second condition), distortion, and achromatism. Supplemented with laboratory practise in the design and construction of simple photographic lenses.

BACTERIOLOGY

(Office, Veterinary Laboratory Building)

PROFESSOR MORREY, PROFESSOR MCCAMPBELL, ASSISTANT PROFESSOR
STARIN AND DEPARTMENT ASSISTANTS

These courses in Bacteriology are open to advanced undergraduates and graduate students only. The instructor in charge must be consulted before electing.

107. General Bacteriology. Three to five credit hours. First semester. L. M., W., at 8, or Tu., Th., at 9; Lab. Tu., Th., or W., F., 1-4. Professor Morrey, Professor McCampbell, Assistant Professor Starin.

Making of media, cultures, staining methods, physiological properties.

108. Pathogenic Bacteria. Three to five credit hours. Second semester. L. M., W., at 8, or Tu., Th., at 9; Lab. Tu., Th., or W., F., 1-4. Prerequisite, Bacteriology 107. Professor Morrey, Professor McCampbell, Assistant Professor Starin.

114. Water Examination, Sewage Disposal, Water Filtration. Three to five credit hours. Second semester. Prerequisite, 107. L. M., W., at 9; Lab. afternoons. Professor Morrey.

116. Bacteriological Chemistry (Enzymes). Three to five credit hours. Second semester. L. M., W., at 11; Lab. afternoons. Prerequisite, Bacteriology 107. Professor Morrey.

117-118. Immunity and Serum Therapy. Three to five credit hours. The year. L. Tu. Th., at 1; Lab. Tu., Th., 2-5. Prerequisite, 107 and 108, or equivalents. Assistant Professor Starin.

Preparation of toxins, antitoxins, vaccines and immune serums.

119-120. Pathogenic Protozoa. Three to five credit hours. The year. Two lectures, two to six hours' laboratory work. Prerequisite, Bacteriology 107 and 108, or equivalents. Assistant Professor Starin.

125-126. Special Problems in Bacteriology. Three to five credit hours. The year. Time to be arranged. Conferences, library, and laboratory work. Prerequisite, one year's work in Bacteriology. Professor Morrey, Assistant Professor Starin.

BIBLIOGRAPHY

(Office, Orton Hall)

MISS JONES, MR. REEDER

105-106. Bibliography for the Social Sciences. One credit hour. The year. In order to take this work any one of the courses in the Social Sciences group must have been completed, and an additional course in the group must be carried at the same time. Mr. Reeder.

This course is an expansion of the one formerly given as

Economic Bibliography, Economics 169-170. The course covers the use of library catalogues, magazine indexes, reference books, and national, state and municipal documents, which form the basis of advanced work in courses given by the departments of American History, Economics and Sociology, Political Science and European History. Lectures and problems.

BOTANY

(Office, Botanical Hall)

PROFESSOR SCHAFFNER, ASSISTANT PROFESSOR GRIGGS, ASSISTANT PROFESSOR DACHNOWSKI, MISS DETMERS

101-102. General Botany. Four credit hours. The year. L., M., or F., at 10; Tu., at 8; W., at 11. Lab. M., F., at 10-12; Tu., Th., 8-10 or 10-12; M., Tu., 1-3; Th., F., 1-3; Tu., Th., 1-3, or M., F., 1-3. Quiz M., Tu., Th., or F., at 3; Th. at 8 or 11. Text-books, Curtis's Nature and Development of Plants 2d edition), Schaffner's Laboratory Outlines for General Botany (2d edition). Lecture, quiz, and laboratory. Professor Schaffner, Assistant Professor Griggs, Miss Detmers.

This course gives a general survey of the plant kingdom by the comparative method of morphological types and life cycles. It is intended to present a general view of the morphology, evolution and classification of plants from the lowest to the highest.

110. Dendrology. Two credit hours. Second semester. W., 1-4. Text-book, Schaffner's Trees of Ohio and Surrounding Territory. Professor Schaffner.

A study of trees and shrubs with practise in the identification of woody plants, both in summer and winter condition. Students are required to prepare a dendrological herbarium.

116. Plant Pathology. Three credit hours. Second semester. W., at 11; M., F., 10-12. Text-book, Duggar's Fungous Diseases of Plants. Lecture and laboratory. Assistant Professor Griggs.

117-118. Forest Botany. Four credit hours. The year. Tu., Th., at 9; M. W., 1-4. Lectures and laboratory. Prerequisite, Botany 101-102, or equivalent. Assistant Professor Dachnowski.

120. Field Botany. Two credit hours. Second semester. Saturdays. Prerequisite, General Botany. Assistant Professor Griggs.

121. Plant Genetics. Two credit hours. First semester. One lecture one period laboratory. W., 1-4. Prerequisite, Botany 101-102 and one additional year of some biological subject. Students electing this course should also take Zoology 129. Professor **Schaffner**.

In this course the foundation principles of plant genetics are considered, including a study of fertilization and reduction hybridization. Mendelian laws, variations, mutations, and methods of procedure in crossing both lower and higher plants.

123-124. Advanced Morphology. Three to five credit hours. The year. Laboratory, W., 1-4. Prerequisite, Botany 101-102, or equivalent. Assistant Professor **Griggs**.

This course is intended to complete the morphological training begun in the first year. It includes instruction in micro-technique. Whenever possible this course should be accompanied by Botany 135-136.

125-126. Plant Physiology. Four credit hours. The year. Tu., Th., at 8; Tu., Th., 1-4. Lectures and laboratory. Prerequisite, Botany 101-102, or equivalent. Assistant Professor **Dachnowski**.

The course is an experimental study of the soil, air, and biotic relations of plants. It aims to give training and instruction in such phases of nutrition, growth, movement, and the tropisms of plants as have a practical bearing in agriculture, forestry, and general biology.

135-136. Evolution of Plants. One credit hour. The year. M., at 4. Prerequisite, one-year course in botany. Professor **Schaffner**.

For Advanced Undergraduates and Graduates

127-128. Special Mycology. Three credit hours. The year. Laboratory and field work. Prerequisite, Botany 101-102, or equivalent. Assistant Professor **Griggs**.

129-130. Systematic Botany. Three to five credit hours. The year. M., 1-4. Prerequisite, Botany 101-102, or equivalent. Professor **Schaffner**.

131-132. Cytology and Microtechnique. Three to five credit hours. The year. Prerequisite, Botany 123-124, or equivalent. Professor **Schaffner**.

133-134. Minor Investigations. Three to five credit hours. The year. Prerequisite, Botany 101-102, or equivalent. Professor **Schaffner**, Assistant Professor **Griggs**, Assistant Professor **Dachnowski**.

137-138. Seminar in Botany. One credit hour. The year. Prerequisite, two years' work in botany.

This course should be elected only in connection with other advanced courses.

For Graduates

201-202. Research in Systematic Botany. Three to ten hours. The year. Laboratory open daily. Professor **Schaffner**, Assistant Professor **Griggs**.

203-204. Research in Morphology and Cytology. Four to ten hours. The year. Laboratory open daily. Professor **Schaffner**, Assistant Professor **Griggs**.

205-206. Research in Physiology and Ecology. Four to ten hours. The year. Laboratory open daily. Assistant Professor **Dachnowski**.

CHEMISTRY

(Office, Room 100, Chemistry Hall)

PROFESSOR **MCPHERSON**, EMERITUS PROFESSOR **NORTON**, PROFESSORS **HENDERSON**, **FOULK**, **EVANS**, ASSOCIATE PROFESSOR **WITHROW**, DR.

WILKINSON, MR. **KELLOGG**, AND DEPARTMENT ASSISTANTS

For Undergraduates

105. Elementary Chemistry. Four credit hours. First semester. L. M., at 8 or 3. Lab. M., Tu., 1-4; Th., F., 1-4; Tu., Th., 9-12; M., F., 9-12; W., 1-4; S., 8-11. Q. Tu., at 8 or 11; Th., at 10; F., at 9, 11, or 1; W., at 11. Professor **Evans**, Mr. **Stratton**, Mr. **Davison**.

A general course on the chemistry of the non-metals, arranged for students who have not presented chemistry as an entrance requirement. Students taking this course will follow with course 106, second semester.

106. Elementary Chemistry and Qualitative Analysis. Four credit hours. Second semester. Time, same as course 105. Prerequisite, Chemistry 105. Professor **Evans**, Mr. **Stratton**, Mr. **Davison**.

A general course on the chemistry of the metals. The laboratory work accompanying is a general introductory course in qualitative analysis.

109. General Chemistry. Four credit hours. First semester. L. Tu., at 8 or W., at 11. Lab. same as 105. Q. Th., at 10; F., at 9, 11, or 2. Professor Evans, Associate Professor Withrow, Mr. Kellogg, Mr. Witzemann, Mr. Van Sickle.

A general course on the chemistry of the non-metals. It is more advanced than course 105 and is arranged for students who have had an acceptable course in elementary chemistry in a secondary school. Students taking this course will follow with course 110, second semester.

110. General Chemistry and Qualitative Analysis. Four credit hours. Second semester. Time, same as course 109. Prerequisite, Chemistry 109. Professor Evans, Mr. Kellogg, Mr. Witzemann.

A general course on the chemistry of the non-metals. It is more advanced than course 106. The laboratory work is a general course in qualitative analysis.

113-114. Advanced General Chemistry. Two credit hours. The year. Tu., Th., at 11. Prerequisite, Chemistry 106 or 110. Professor Henderson.

A course of fundamental topics in the field of advanced general chemistry.

117. Qualitative Analysis. Elementary course. Three credit hours. First semester. One lecture and six hours laboratory work weekly. Prerequisite, an acceptable course in general chemistry. Dr. Wilkinson.

119-120. Quantitative Analysis. Four credit hours. The year. One lecture, nine hours laboratory work weekly. L. Tu., at 1. Lab. M., Tu., Th., F., 8 to 12. Prerequisite, Course 106 or 110, or equivalent. Professor Foulk, Dr. Wilkinson.

First semester, elementary principles of gravimetric and volumetric analysis. Second semester, continuation of work of first semester with typical analytical methods, gravimetric and volumetric. This course must be accompanied by course 124, except by special permission of the instructor. It is also desirable that it be accompanied by course 113-114.

124. Chemical Problems. One credit hour. F., at 11. Second semester. Professor Foulk.

Extended practise in the solution of problems pertaining to gravimetric and volumetric analysis. This course is arranged to accompany course 119-120.

136. The Reading of Chemical Literature. Two credit hours. Second semester. Tu., Th., at 10. Prerequisite, one year of German. Professor Foulk.

The object of this course is to afford practise in the rapid reading of German chemical literature, the selections being made with special reference to the technical terms of the science.

151-152. Organic Chemistry. Two credit hours. The year. Tu., Th., at 8. Prerequisite, courses 113-114 and 119-120, except by special permission of the instructor. Professor McPherson.

This is a general course in organic chemistry.

153-154. Organic Chemistry. Two or three credit hours. The year. Six or nine hours laboratory work weekly. Laboratory open afternoons. This course must be accompanied or preceded by course 151-152. Professor McPherson, Mr. Boord.

A general course in the preparation of typical organic compounds.

187. Inorganic Preparations. Two or three credit hours. First semester. Six to nine hours laboratory work weekly. Laboratory open afternoons. Prerequisite, Chemistry 113-114. Professor Henderson.

A course in the preparation of a limited number of compounds chosen so as to give practise in the different kinds of manipulation involved in the preparation of inorganic compounds.

188. Inorganic Preparations. Two or three credit hours. Second semester. Laboratory open afternoons. Repetition of course 187. Professor Henderson.

For Advanced Undergraduates and Graduates

157-158. Physical Chemistry. Three credit hours. The year. M., W., F., at 11. Prerequisite, courses 113-114, 119-120, and 151-152, except by special permission of the instructor. Professor Henderson.

This is a general course in physical chemistry.

161. Physical Chemistry. Two or three credit hours. First semester. Six to nine hours laboratory work weekly. Prerequisite, or concurrent, Chemistry 157-158. Professor **Henderson**.

An elementary course in physico-chemical measurements.

162. Physical Chemistry. Two or three credit hours. Second semester. Repetition of Chemistry 161. Professor **Henderson**.

165. Quantitative Analysis. Advanced course. Three to five credit hours. First semester. Two lectures, three to nine hours laboratory work weekly. Prerequisite, Chemistry 119-120, or equivalent. Professor **Foulk**.

A general survey of the methods of quantitative analysis. The laboratory work consists of analyses involving somewhat difficult and skilful manipulation.

167. Special Methods of Analysis. Three to five credit hours. First semester. One lecture and six to twelve hours laboratory work weekly. Selections may be made from gas analysis, microchemical analysis and spectrum analysis. Prerequisite, Chemistry, 119-120. Dr. **Wilkinson**.

168. Qualitative Analysis. Advanced course. Second semester. Three to five credit hours. L. Tu., at 1. Six to twelve hours laboratory work weekly. Prerequisite, Chemistry 119-120, or equivalent. Dr. **Wilkinson**.

Extended work in general qualitative analysis including the more important of the rarer elements.

176. Sanitary Analysis. Three credit hours. Second semester. L. Tu., Th., at 9. Three hours laboratory work weekly. Laboratory open forenoons and afternoons. Prerequisite, Chemistry 119-120, or equivalent. Professor **Foulk**.

A study of the methods of sanitary water analysis and the interpretation of results.

177. Industrial Chemistry. Two credit hours. First semester. Tu, Th., at 8. Prerequisite, Chemistry 113-114 and 153-154. Associate Professor **Withrow**.

A general course in the principles underlying the application of chemistry in the industries.

178. Industrial Chemistry. One credit hour. Second se-

mester. Tu., at 8. A continuation of Chemistry 177. Associate Professor **Withrow**.

185. Industrial Chemistry. Two credit hours. First semester. M., Tu., 1 to 4. Prerequisite, Chemistry 119-120, and must be accompanied or preceded by Chemistry 177-178. Associate Professor **Withrow**.

Industrial chemical research.

186. Industrial Chemistry. Three credit hours. Second semester. W., Th., F., 1 to 4. A continuation of Chemistry 185. Associate Professor **Withrow**.

In the latter portion of the semester the study of methods for the analysis of industrial products is undertaken.

191. Rare Elements. Two credit hours. First semester. Tu., Th., at 8. Prerequisite, Chemistry, 119-120 and 113-114. Given in 1912-13 and biennially thereafter. Professor **Henderson**.

A general course on the chemistry of the rare elements, including a discussion of their increasing economic importance.

194. Applied Electro Chemistry. Two credit hours. Second semester. M., F., at 10. Prerequisite, Chemistry, 157-158, except by special permission of the instructor. Associate Professor **Withrow**.

A descriptive course covering the application of the electric current in the chemical industries.

196. Inorganic Chemistry. Two hours. Second semester. Two lectures weekly. Prerequisite, Chemistry 157-158. Given in 1912-13 and biennially thereafter. Mr. **Kellogg**.

A general discussion of some topic in the field of inorganic chemistry. Topic for 1912-13, "Catalysis." Since the topic changes from year to year, the course may be elected in different years by the same student.

Exclusively for Graduates

201-202. Physical Chemistry. Three credit hours. The year, or may be elected either semester separately. Nine hours laboratory work weekly. Prerequisite, Chemistry 157-158. Professor **Henderson**.

A general course on physico-chemical measurements.

205-206. Organic Chemistry. Advanced course. Three to five credit hours. The year. Library, conference, and laboratory

work. Prerequisite, Chemistry 153-154, except by special permission of the instructor. Professor **McPherson**.

Special attention is given to the preparation of organic compounds with reference to yield and purity of products. Extended practise is also given in the quantitative determination of the elements present in organic compounds.

209-210. Inorganic Preparations. Three credit hours. The year. Library, and laboratory work. Prerequisite, Chemistry 187 or 188. Professor **Henderson**.

This is an advanced course dealing largely with the preparation and study of a series of compounds of certain rare metals, or of more unusual types of compounds presenting experimental difficulties.

213. Historical Chemistry. Two credit hours. First semester. Tu., Th., at 8. Given in 1912-13 and biennially thereafter. Professor **Henderson**.

A general advanced course in historical chemistry.

215. Organic Chemistry. Two credit hours. First semester. Two lectures weekly. Prerequisite, Chemistry 205-206. Given in 1912-13 and biennially thereafter. Professor **McPherson**.

A general discussion of some important topic in organic chemistry. Topic for 1912-13, "The Carbohydrates."

218. Organic Chemistry. Two credit hours. Second semester. Two lectures weekly. Prerequisite, Chemistry 205-206. Given 1911-12 and biennially thereafter. Professor **Evans**.

This course is similar to course 215. Topic for 1911-1912, "The Purin Derivatives and the Amino Acids." Since the topic changes from year to year, the course may be elected in different years by the same student.

221. The Phase Rule. Two credit hours. First semester. Tu., Th., at 8. Given in 1913-14, and biennially thereafter. Prerequisite, Chemistry 157-158. Professor **Henderson**.

224. Electro Chemistry. Two credit hours. Second semester. Tu., Th., at 8. Given in 1913-14, and biennially thereafter. Prerequisite, Chemistry 157-58. Professor **Henderson**.

A discussion of the general principles underlying the subject of electro chemistry.

227. Analytical Chemistry. Two credit hours. First semester.

ter. Two lectures weekly. Prerequisite, Chemistry 119-120 and 157-158. Professor **Foulk**.

A course of lectures on some topic of general interest to students in analytical chemistry. Subject for 1912-13, "The Scientific Foundations of Analytical Chemistry." This course may be elected in different years by the same student.

231-232. Chemical Seminar. One credit hour. The year. W., at 9.

All those engaged in giving instruction in the department, together with the fellows and graduate students, meet for an extended discussion of chemical problems of general interest.

235-236. Research Work. Five to ten credit hours. The year. Library, conference, and laboratory work. Research work in organic chemistry is conducted under the supervision of Professor **McPherson** and Professor **Evans**; in physical and general chemistry under Professor **Henderson**; in analytical chemistry under Professor **Foulk** and Dr. **Wilkinson**; in industrial and electro-chemistry under Associate Professor **Withrow**.

ECONOMICS AND SOCIOLOGY

(Office, Room 211, University Hall)

PROFESSORS **HAGERTY**, **HAMMOND** AND **GEPHART**, ASSOCIATE PROFESSOR **MCKENZIE**, ASSISTANT PROFESSORS **LOCKHART** AND **HUNTINGTON**,
MISS **SHEETS**, DR. **WALRADT** AND MR. **MILLS**.

I Economics

For Undergraduates

131. Economic and Social History of England and the United States. Three credit hours. First semester. Open only to first and second year students. M., W., F., at 9. Dr. **Walradt**.

132. Repetition of 131. Three credit hours. Second semester. M., W., F., at 11. Dr. **Walradt**.

133. Economic Geography. Three credit hours. First semester. Open only to first and second year students. M., W., F., at 11. Assistant Professor **Huntington**.

The influences of geographic environment, with special reference to North America.

134. Repetition of 133. Three credit hours. Second semester. M., W., F., at 9. Assistant Professor **Huntington**.

135-136. **Principles of Economics**. Three credit hours. The year. Not open to first year students. Should precede all courses in Economics except 131, 132, 133, 134. M., W., F., at 8, 9 and 1; Tu., Th., S., at 9. Professors **Hammond** and **Gephart**, Assistant Professor **Lockhart** and Dr. **Walradt**.

135a. Repetition of 136. Three credit hours. First semester. Tu., Th., S., at 10. Dr. **Walradt**.

136a. Repetition of 135. Three credit hours. Second semester. Tu., Th., S., at 10. Dr. **Walradt**.

139-140. **Elements of Accounting**. Two credit hours. The year. Prerequisite, registration in 135-136. Tu., Th., at 8 or 9 Assistant Professor **Huntington**.

An introduction to practical accounting, including the analysis and interpretation of business statements.

141. **Public Finance**. Two credit hours. First semester. Prerequisite, Economics 135-136. Tu., Th., at 11. Assistant Professor **Lockhart**.

Public expenditures; sources of revenue, with special reference to problems of taxation; public credit; the budget; financial administration.

142. **Financial History of the United States**. Two credit hours. Second semester. Prerequisite, Economics 135-136. Tu., Th., at 11. Assistant Professor **Lockhart**.

A study of the fiscal and monetary history of the country from colonial times to the present, with special reference to federal taxation, loans, and financial administration, currency legislation, and the development of banking institutions.

143. **Business Law**. Three credit hours. First semester. Prerequisite, 135-136. M., W., F., at 9. Professor **Gephart**.

A study of the leading legal principles of interest to the business man to be found in the law of contracts in general agency, partnerships, corporations, personal and real property, suretyship and guaranty, insurance, the estates of decedents, etc.

145-146. **Senior Seminar in Economics**. Two credit hours. The year. M., 3 to 5. Professor **Hammond**.

A course of individual investigation and class discussion of

practical economic problems. Recommended to students who have had at least two years' work in Economics. Open to students who have obtained permission of the instructor.

For Advanced Undergraduates and Graduates

152. Business and Social Statistics. Three credit hours. second semester. Prerequisite, Economics 135-136. M., W., F., at 9. Professor **Gephart**.

A study of statistical methods, the use of statistics and the proper representation of statistical data. Concrete studies are made of the significance of certain vital statistics, such as death, birth, marriage and divorce rates, of population movements, of industrial and business conditions as indicated by wage, income, corporations and other business statistics.

153. Money and Currency. Three credit hours. First semester. M., W., F., at 2. Prerequisite, Economics 135-136. Assistant Professor **Lockhart**.

The relation of money to prices; monetary systems; bimetalism, the gold standard, government and bank paper money; banking history and legislation, with special reference to note issues; currency reform in the United States.

***154. Banking and the Money Market.** Three credit hours. Second semester. Prerequisite, Economics 153. Assistant Professor **Lockhart**.

The organization and functions of banks and other financial institutions; the mechanism of the money and investment markets; the rate of discount; types of investment securities.

156. Municipal Economics and Finance. Three credit hours. Second semester. Prerequisite, Economics 135-136. M., W., F., at 2. Assistant Professor **Lockhart**.

The growth of cities and its effects on their economic and social activities; private versus public ownership and operation of public utilities; city finances.

157. Life Insurance. Two credit hours. First semester. Prerequisite, Economics 135-136. Tu., Th., at 10. Professor **Gephart**.

Principles of life insurance and its economic and social significance; kinds of companies, policies; methods of organization,

* Not given in 1912-1913.

operation and regulation. Health, accident, industrial and old-age insurance.

158. Property Insurance. Two credit hours. Second semester. Prerequisite, Economics 135-136. Tu., Th., at 10. Professor Gephart.

Fire, marine, liability, and miscellaneous insurance. Historical development and practise of various form of property insurance. A careful study of each class of companies, their risks, policies, methods of operation and regulation by state.

159. Commercial Development. Three credit hours. First semester. Prerequisite, Economics 135-136. M., W., F., at 11. Professor Gephart.

A study of the basis and development of commerce in the chief commercial nations. Present and prospective leadership among commercial nations and the factors contributing to it. Regulation of commerce by the state and local governments.

160. Commercial Policies. Three credit hours. Second semester. Prerequisite, Economics 135-136. M., W., F., at 11. Professor Gephart.

Theories of international trade, mercantilism, free-trade and protection; a study of the tariff of the United States with a comparative study of those of the leading commercial nations. Balance of trade, domestic and foreign exchange.

***161. Mercantile Institutions in Domestic Trade.** Three credit hours. First semester. Prerequisite, Economics 135-136. Professor Hagerty.

The evolution and organization of mercantile institutions with a study of the methods of selling and distributing goods, including selling agencies, traveling salesmen, produce exchanges, commercial credit, mercantile agencies, etc.

***162. Foreign Markets and the Consular System.** Three credit hours. Second semester. Prerequisite, Economics 135-136. Professor Gephart.

The significance of exports and imports. The work of the state in furthering commerce. The contest for markets and the methods of securing them. An analysis of the commerce of the United States and the leading commercial nations.

* Not given in 1912-1913.

163. Corporation Economics. Three credit hours. First semester. Prerequisite, Economics 135-136. M. W. F., at 9. Professor Hammond.

The development of corporations. Corporate organizations, management, and finance. Forms and methods of industrial consolidations. Monopolistic tendencies in industry. Public regulation of industrial monopolies.

164. Industrial Organization. Three credit hours. Second semester. M., W., F., at 9. Prerequisite, Economics 135-136. Professor Hammond.

The development and internal organization of modern manufacturing enterprises. The forces determining their location. Factory administration. Welfare work. Lectures, reports and visits of inspection to local plants.

165. Labor Legislation. Three credit hours. First semester. M., W., F., at 1. Prerequisite, Economics 135-136. Professor Hammond.

A study of the labor laws of the United States and the principal foreign countries with reference to their social and economic causes and effects.

166. Organization and Remuneration of Labor. Three credit hours. Second semester. M., W., F., at 1. Prerequisite, Economics 135-136. Professor Hammond.

History of the labor movement. Trade union policies and methods. Employers' organizations. Collective bargaining. Industrial arbitration. Attempts to modify the wage system. Time, piece, and progressive wages. Profit sharing, labor co-partnership and co-operation.

***167. Railway Economics.** Three credit hours. First semester. Prerequisite, Economics 135-136. Professor Hammond.

The development of means of transportation. Railway growth and consolidation. Railway rate theories and practise. Railway commissions and public control. Government ownership of railroads.

***168. Railway Organization and Administration.** Three credit hours. Second semester. Prerequisite, Economics 135-136. Professor Hammond.

* Not given in 1912-1913.

The organization of a modern railway system and the functions of the various departments. Rate making and the work of the traffic department. The work of the industrial commissioner. Railway finance and statistics. The relation of the railroads to the accounting division of the Interstate Commerce Commission.

171. Principles of Accounting. Three credit hours. First semester. Prerequisite, Economics 139-40. M., W., F., at 8. Assistant Professor Huntington.

The principles of modern accounting, including a study of some of its problems, especially those connected with the balance sheet and the income statement, as the valuation of assets and the treatment of good will, depreciation, capital stock, profits, surplus, reserves, etc.

172. Cost Accounting. Three credit hours. Second semester. Prerequisite, Economics 171 or 173. M., W., F., at 8. Assistant Professor Huntington.

The purpose of cost accounting, the relation of the various elements of cost, and the methods of recording them in various types of industries.

***173. Accounting Practise.** Three credit hours. First semester. Prerequisite, Economics 139-140. M., W., F., at 8. Assistant Professor Huntington.

The working out of practical problems in accounting and the analyzing of reports of industrial, financial, and railway corporations.

***174. Auditing.** Three credit hours. Second semester. Prerequisite, Economics 171 or 173. M., W., F., at 8. Assistant Professor Huntington.

The duties and responsibilities of an auditor or certified public accountant, the various kinds of audits and their value, the nature and value of the auditor's report. The working out of auditing problems, and the preparation of audit reports.

***175. Principles of Advertising.** Two credit hours. First semester. A study of advertising, its laws, its economic importance, advertising costs, methods of advertising and follow up systems; the work of the general adviser, the advertising manager, and the general advertising agency.

* Not given in 1912-1913.

II. Sociology

For Undergraduates

101-102. Principles of Sociology. Three credit hours. The year. M., W., F., at 8, 9, 3. Professor **Hagerty**, Associate Professor **McKenzie**, and Miss **Sheets**.

Not open to first-year students and must precede all courses in Sociology except Sociology 113 and 114.

A study of the fundamental principles of Sociology. Text-book, lectures, collateral reading, and individual investigations.

For Advanced Undergraduates and Graduates

***103. The Indian.** Three credit hours. First semester. M., W., F., at 2. Prerequisite, Sociology 101-102. Associate Professor **McKenzie**.

A study of primitive man. Readings from reports of the United States Bureau of Ethnology and other sources. A study of the modern Indian problem.

104. The Immigrant. Three credit hours. Second semester. M., W., F., at 2. Prerequisite, Sociology 101-102. Associate Professor **McKenzie**.

The causes and sources of migration, provisions for transportation, immigration laws, and the assimilation of nationalities.

105. The Negro. Three credit hours. First semester. M., W., F., at 2. Prerequisite, Sociology 101-102. Associate Professor **McKenzie**.

A study of tropical man and the results of his transference to a temperate clime. Negro health, crime, education, and progress in the United States.

107. The Family. Three credit hours. First semester. M., W., F., at 11. Prerequisite, Sociology, 101-102. Miss **Sheets**.

A study of the matrimonial institutions of primitive society and the evolution of the family through the Greek, Roman, Medieval and Modern Periods.

108. Primitive Man in Ohio. One credit hour. Second semester. Th., at 10. Prerequisite, Sociology 101-102. Mr. **Mills**.

A study of the geological evidence of man's antiquity in Ohio. A detailed study of mounds, earthworks, and remains; environment and stages of culture; late discoveries in the mounds and village sites in Ohio. Illustrated by specimens from the Archæological Museum.

* Not given in 1912-1913.

109. Modern Charity. Three credit hours. First semester. M., W., F., at 9. Prerequisite, Sociology 101-102. Professor Hagerty.

The treatment of dependent and defective classes. A history of poor relief in Great Britain and the United States. Outdoor and indoor relief, both public and private. Organized charity, the treatment of the vagrant, the care of dependent children, the insane, the feeble minded, the epileptic, and the education of the blind and the deaf.

110. Criminology. Three credit hours. Second semester. M., W., F., at 9. Prerequisite, Sociology 101-102. Professor Hagerty.

A study of crime and the social and physiological causes of crime. An historical study of prison systems and methods. The indeterminate sentence, the probation, and the parole laws. The Juvenile Court and its agencies to prevent crime.

***111. Poverty.** Three credit hours. First semester. M., W., F., at 9. Prerequisite, Sociology 101-102. Professor Hagerty.

A study of the personal and social causes of poverty and dependency. Exploitation, maladjustment, housing conditions, tenement legislation, etc. The maintenance of a reputable standard of living.

***112. Preventive Philanthropy.** Three credit hours. Second semester. M., W., F., at 9. Prerequisite, Sociology 109 or 111. Professor Hagerty.

A study of preventive institutions, and methods for the promotion of thrift, and for sanitation and public health; parks, playgrounds, substitutes for the saloon, social settlements, child labor legislation, industrial education, building codes, etc.

113. Historic Socialism and Social Reform. Three credit hours. First semester. M., W., F., at 1. Prerequisite, Sociology 101-102, or Economics 135-136. Associate Professor McKenzie.

History and theory of communism, socialism and reform to the middle of the nineteenth century.

114. Recent Socialism and Social Reform. Three credit hours. Second semester. M., W., F., at 1. Prerequisite, Sociology 101-102, or Economics 135-136. Associate Professor McKenzie.

* Not given in 1912-1913.

Marx and his contemporaries. Present movements in the United States and abroad. The social function of the church.

115-116. Field Work in Sociology. Two credit hours. One or two semesters. Time to be arranged. Open only to graduates and seniors who have had two years' work in Sociology. Miss Sheets.

A study of the work of charity organization, the Juvenile Court or the Social Settlement, through practical experience in these organizations. This course involves the preparation of papers.

117-118. Seminar in Sociology. Two credit hours. The year. M., 3-5. Open to graduates and advanced undergraduates. Professor Hagerty.

120. The Household. Three credit hours. Second semester. M., W., F., at 11. Prerequisite, Sociology 101-2. Miss Sheets.

The family as an economic institution. The evolution of household industries and its effect upon the home. Organization of the household with reference to the functions of man and woman.

Exclusively for Graduates

201-202. Advanced Sociology. Two credit hours. The year. Prerequisite, Sociology 101-102. Assistant Professor McKenzie.

A rapid review of social theories from Plato to Spencer, with a more detailed study of the writings of recent sociologists.

203-204. Distribution of Wealth. Three credit hours. The year. M., W., F., at 11. Professor Hagerty.

A study of the development of economic theories concerning the distribution of the social product among the producers from the time of the mercantilists to the present time. The works of the leading writers of each period are read and discussed in class.

***205-206. The State in its Relation to Industry and Labor.** Two credit hours. The year. Professor Hammond.

A study of the trend of economic and legal thought concerning the part which the state should take in regulating and developing industry and labor. The results of the policy of non-interference and of the later tendency towards regulation in various countries, particularly those of Anglo-Saxon peoples.

*Not given in 1912-1913.

207-208. Graduate Seminar in Economics and Sociology. Two credit hours. The year.

Graduate students and the instructors in the department will meet regularly for the presentation of the results of investigation, the review of current economic and sociological literature, and the discussion of current problems.

ENGLISH

(Office, Room 202 English Building)

PROFESSORS DENNEY, TAYLOR, MCKNIGHT, ASSOCIATE PROFESSOR GRAVES,
ASSISTANT PROFESSORS DUNCAN, BLANCHARD, COOPER,
HARRINGTON, BECK

For Undergraduates

(a) Composition

101. Paragraph Writing. Description and Narration. Two credit hours. First semester. M., F., at 8, 9, 10 or 11; Tu., Th., at 8, 9, 10, 11, 1 or 3; W., F., at 8 or 3; S., 9-11. Text: Scott and Denney's Paragraph Writing. All instructors.

Mr. Harrington will teach a section, Tu., Th., at 10, for prospective students in Journalism courses.

102. Repetition of Course 101. Second semester. S., 9 to 11. Assistant Professor Beck.

104. Paragraph Writing. Exposition and Argumentation. Two credit hours. Second semester. M., F., at 8, 9, 10 or 11; Tu., Th., at 8, 9, 10, 11, 1 or 3; W., F., at 8 or 3. Prerequisite, English 101. (Course 104 is also offered in the Summer Session.) All instructors.

Mr. Harrington will teach a section, Tu., Th., at 10, for prospective students in Journalism courses.

107. Advanced Description and Narration. Two credit hours. First semester. Tu., Th., at 11. Prerequisite, English 101. Associate Professor Graves.

108. Advanced Exposition and Criticism. Two credit hours. Second semester. Tu., Th., at 11. Prerequisite, English 101. Associate Professor Graves.

111-112. Advanced Argumentative Writing. Two credit hours. The year. Tu., Th., at 10. Prerequisite, English 104. Professor Denney.

(b) Journalism

113. News Collecting and News Writing. Two credit hours. First semester. Tu., Th., at 9. Prerequisite, English 101 and 104. Assistant Professor **Harrington**.

Attention given to vocabulary and style, with drill in the gathering of news through exercises and assignments. The work of the reporter will be considered in connection with a discussion of the organization of the newspaper. Students will be sent to cover actual stories throughout the city. Newspaper men will address the class.

114. Newspaper Correspondence. Two credit hours. Second semester. Tu., Th., at 9. Assistant Professor **Harrington**.

A continuation of course 113 with the addition of newspaper correspondence and feature writing.

115. Newspaper Practise. Three credit hours. First semester. M., W., F., at 11. Prerequisite, English 113-114. Assistant Professor **Harrington**.

An advanced course intended for students who are doing work on the University or city papers. These students will be given various assignments. Practise in the writing of headlines, editing of newspaper copy, making-up and reading of proof will be included in the course. Weekly consultations with the instructor.

116. Newspaper Practise. Three credit hours. Second semester. M., W., F., at 11. Assistant Professor **Harrington**.

A continuation of course 115 with the addition of work in the writing and display of advertising matter. Prerequisite, English 113-114.

117. Editorial Work. Two credit hours. First semester. W., 2 to 4. Prerequisite, English 113-114, 115, 116. Assistant Professor **Harrington**.

The planning and writing of magazine and trade-journal articles will be treated in this course, as well as the special problems of technical journalism.

118. Newspaper Practise. Two credit hours. Second semester. W., 2 to 4. Prerequisite, English 117. Assistant Professor **Harrington**.

The evolution of the newspaper will be treated in some detail, and attention will be given to a comparative study of the

newspapers of to-day and to the discussion of newspaper problems, including the work of the country editor.

(c) Public Speaking

121. Principles of Public Speaking. Two credit hours. First semester. W., F., at 1, or 3. Prerequisite, English 101 and 104. Assistant Professor Blanchard.

122. Debating. Two credit hours. Second semester. W., F., at 1., or 3. Prerequisite, English 101 and 104. Assistant Professor Blanchard.

123. Advanced Debating. Two credit hours. First semester. W., F., at 2. Prerequisite, English 122. Assistant Professor Blanchard.

124. Extempore Speaking. Two credit hours. Second semester. W., F., at 2. Prerequisite, English 122. Assistant Professor Blanchard.

(d) Historical and Literary

127. History of the English Language. Two credit hours. First semester. Tu., Th., at 1. No prerequisite course. Designed for students without a knowledge of Old and Middle English. The development of the language is traced by means of illustrative specimens. Attention is paid to the history of spelling and pronunciation, the changes in the meaning of words, and the origin of modern idioms. Professor McKnight.

128. English Words. Two credit hours. Second semester. Tu., Th., at 1. No prerequisite course. Text-book: Greenough and Kittredge's Words and Their Ways in English Speech. Professor McKnight.

***129. The English Bible: Narrative Forms.** Two credit hours. First semester. No prerequisite course. Assistant Professor Duncan.

***130. The English Bible: Poetic Forms.** Two credit hours. Second semester. No prerequisite course. Assistant Professor Duncan.

131. Survey of English Literature. Three credit hours. First semester. M., W., F., at 9, 11, or 1; Tu., Th., S., at 8. No

* Not given in 1912-1913.

prerequisite course. Associate Professor **Graves**, Assistant Professors **Duncan**, **Cooper**, **Beck**.

The outline of the history of English Literature will be given by lecture. The following will be read: Shakespeare's *Richard III*, *Twelfth Night*, *Coriolanus*; Milton's *Paradise Lost*, Books III, IV; Bunyan's *Pilgrim's Progress*, Pt. I; Dryden's *Palamon and Arcite*; Addison's *Essays*; Pope's *Rape of the Lock*; Goldsmith's *Essays*; Scott's *Kenilworth*; Byron's *Mazeppa*; Carlyle's *Essay on Biography*; Dickens's *Martin Chuzzlewit*; Stevenson's *Virginibus Puerisque*.

European History 103-104 (Narrative History) is recommended in connection with this course.

132. Repetition of 131. M., W., F., at 11. Associate Professor **Graves**.

133. **Survey of American Literature**. Three credit hours. First semester. M., W., F., at 8. No prerequisite course. Professor **Taylor**.

The outline of the history will be given by lecture. The reading and criticism will be of Irving, Cooper, Bryant, and Poe; of Hawthorne, Emerson, Whittier, Longfellow, and Lowell; and of Walt Whitman, with a brief survey of recent literature.

134. Repetition of 133. M., W., F., at 8, 9, or 1; Tu., Th., S., at 8. Professor **Taylor**, Assistant Professors **Duncan**, **Beck**.

135. **The Age of Elizabeth**. (Exclusive of the drama.) Two credit hours. First semester. M., F., at 2. Prerequisite, course 131 or 132. Assistant Professor **Cooper**.

136. **The Age of Milton**. Two credit hours. Second semester. M., F., at 2. Prerequisite, English 131 or 132. Assistant Professor **Cooper**.

137. **Eighteenth Century Essayists**. Two credit hours. First semester. Tu., Th., at 11. Prerequisite, English 131 or 132. Professor **Denney**.

Reading in DeFoe, Swift, Addison, Steele, Pope, Goldsmith, Johnson, Chesterfield, Mackenzie, and Burke.

138. **Nineteenth Century Essayists**. Two credit hours. Second semester. Tu., Th., at 11. Prerequisite, English 131 or 132. Professor **Denney**.

Reading in Coleridge, Lamb, Landor, Hazlitt, De Quincey, Carlyle, Ruskin, Arnold, Newman, Pater, and Stevenson.

139. The Romantic Movement. Two credit hours. First semester. Tu., Th., at 9. Prerequisite, English 131 or 132. Professor Taylor.

A study of the rise and progress of the new poetic movement during the last years of the eighteenth and the earlier years of the nineteenth century. The poetry of Thomson, Cowper, Gray, Blake, Collins, and Burns.

140. Wordsworth and His Period. Two credit hours. Second semester. Tu., Th., at 9. Prerequisite, English 131 or 132. Professor Taylor.

The poetry of Wordsworth, Byron, Shelley, and Keats.

141. Tennyson. Three credit hours. First semester. M., W., F., at 11. Prerequisite, English 131 or 132. Professor Taylor.

The whole of Tennyson will be read and criticized and consideration given to Fitzgerald, Arnold, Swineburne, Rossetti, and Morris.

142. Browning. Three credit hours. Second semester. M., W., F., at 11. Prerequisite, English 131 or 132. Professor Taylor.

The whole of Browning will be read and criticized, with consideration of the poetry of George Meredith, and of their influence on recent literature.

For Advanced Undergraduates and Graduates

151. Old English. Three credit hours. First semester. M., W., F., at 1. Professor McKnight.

Old English prose and poetry as found in Bright's Anglo-Saxon Reader.

152. Old and Middle English. Three credit hours. Second semester. M., W., F., at 1. Professor McKnight.

Beowulf, followed by selections illustrating the language and literature from the Norman Conquest to the time of Chaucer.

153. Chaucer. Two credit hours. First semester. Tu., Th., at 2. Professor McKnight.

Chaucer's principal works are read. Brief consideration is given to Chaucer's contemporaries, Gower, Wycliffe, Langland, and the author of Sir Gawayne and The Grene Knight.

154. English Fiction to Richardson. Two credit hours. Second semester. Tu., Th., at 2. Professor McKnight.

A rapid survey, by means of modern versions, of early epic poetry and medieval romance, followed by a study of the types of novel in the sixteenth and seventeenth centuries.

155. The Novel. Richardson to Scott. Three credit hours. First semester. M., W., F., at 9. Professor Taylor.

The history of the development of the novel in the period is given by lecture. Reading and criticism of Richardson, Fielding, Sterne, Jane Austen, and Scott.

156. The Novel. Dickens to Meredith. Three credit hours. Second semester. M., W., F., at 9. Professor Taylor.

The history and development of the novel in this period is given by lecture. Reading and criticism of Dickens, Thackeray, George Eliot, and George Meredith.

157. Versification. Three credit hours. First semester. M., W., F., at 9. Associate Professor Graves.

The theory of verse structure with a history of the principal English rhythms, and practise in verse composition.

158. The Short Story. Three credit hours. Second semester. M., W., F., at 9. Associate Professor Graves.

Lectures on structure and form in the short story, with class reports on assigned readings, and practise in story writing.

165. Early Popular Drama (including the mysteries, moralities and interludes). Two credit hours. First semester. Tu, Th., at 3. Professor McKnight.

Manly's Specimens of Pre-Shakespearean Drama is made the basis of this course. Outside study in the complete collections is also prescribed.

166. The Drama from 1580 to 1642. Two credit hours. Second semester. Tu., Th., at 3. Professor McKnight.

One or two plays of each of the principal contemporaries and immediate successors of Shakespeare; lectures on the history of the drama in this period.

167. Shakespeare. Histories and Tragedies. Three credit hours. First semester. M., W., F., at 11. Professor Denney.

All of the plays are read with a view to complete criticism.

168. Shakespeare. Comedies and Romances. Three credit hours. Second semester. M., W., F., at 11. Professor Denney.

All of the plays are read with a view to complete criticism.

169. Modern English Drama, 1660-1800. Two credit hours. First semester. Tu., Th., at 11. Assistant Professor **Cooper**.

Representative plays of the principal dramatists are read; lectures on the history of the drama in this period.

170. Modern English Drama, Nineteenth Century. Two credit hours. Second semester. Tu., Th., at 11. Assistant Professor **Cooper**.

The reading of representative plays is accompanied by lectures on the history of the drama in the nineteenth century. Some attention is paid to American plays.

Exclusively for Graduates

201. The Beginning of the Short Story. Two credit hours. First semester. W., 4 to 6. Associate Professor **Graves**.

An investigation of types of the short story in English from the Middle Ages to the present.

202. The Lyric. Two credit hours. Second semester. W., 4 to 6. Associate Professor **Graves**.

A study of the characteristics of lyrical poetry with a history of the lyric in English literature.

***203. Piers Plowman.** Two credit hours. First semester. Professor **McKnight**.

A study of the form and content of the three versions of the Vision Concerning Piers Plowman, and of the pictures of contemporary life afforded. Attention is paid to the recent discussion concerning authorship.

***204. The Author of Sir Gawayne and the Grene Knight.** Two credit hours. Second semester. Professor **McKnight**.

An attempt to become acquainted with the personality of this anonymous writer and to arrive at a conclusion concerning his much debated purpose in his poem, *The Pearl*.

205. History of Critical Theory. Two credit hours. First semester. Tu., 4 to 6. Professor **Denney**.

Saintsbury's *Loci Critici* is used as the basis of individual investigations.

206. Problems in the Drama. Two credit hours. Second semester. Tu., 4 to 6. Professor **Denney**.

* Not given in 1912-1913.

Lectures on the history of dramatic theory. Each student is assigned a specific problem for individual research and weekly report.

207. **Meredith, Hardy, James.** Two credit hours. First semester. F., 4 to 6. Professor Taylor.

208. **Poetry and the Drama Since 1880.** Two credit hours. Second semester. F., 4 to 6. Professor Taylor.

209. **English and Scottish Popular Ballads.** Two credit hours. First semester. M., 4 to 6. Professor McKnight.

210. **English Usage.** Two credit hours. Second semester. M., 4 to 6. Professor McKnight.

219-220. **Discussion of Dissertations.** Two credit hours. The year. Professors Denney, Taylor, McKnight, Mr. Graves.

ENTOMOLOGY

(See Zoology and Entomology)

EUROPEAN HISTORY

(Office, Room 204, University Hall)

PROFESSOR SIEBERT, ASSOCIATE PROFESSOR MCNEAL, ASSISTANT PROFESSOR PERKINS

101. **Medieval History.** Three credit hours. First semester. M., W., F., at 8, 9, 11, 1, 2, and Tu., Th., Sat., at 9. Professor Siebert, Associate Professor McNeal, Assistant Professor Perkins.

102. **Modern History from 1500 A. D.** Three credit hours. Second semester. M., W., F., at 8, 9, 11, 1, 2, and Tu., Th., Sat., at 9. Professor Siebert, Associate Professor McNeal, Assistant Professor Perkins.

103-104. **History of England.** Three credit hours. The year. Open to second, third and fourth year students without prerequisite. Tu., Th., F., at 10. Assistant Professor Perkins.

General course intended for all students wishing to know something of the subject, also for those specializing in English Literature or American History, and for those preparing to teach history in secondary schools.

105. **History of Greece.** Three credit hours. First semester.

ter. Open to second, third and fourth year students without prerequisite. M., W., F., at 11. Associate Professor McNeal.

106. History of Rome. Three credit hours. Second semester. Open to second, third and fourth year students without prerequisite. M., W., F., at 11. Associate Professor McNeal.

107-108. Medieval Civilization. Two credit hours. The year. Prerequisite, courses 101 and 102. Advanced students from other departments admitted without the prerequisite on consent of the instructor. Tu., Th., at 11. Associate Professor McNeal.

(1) Political institutions of the Middle Ages: the feudal system, the organization of the church, the national monarchies; (2) Intellectual development: scholastic philosophy, sciences, the universities; (3) Culture of the Middle Ages: legends and traditions, native languages and literatures, art, customs of chivalry.

109. The Age of the Renaissance, 1250 to 1500 A. D. Three credit hours. First semester. Prerequisite, courses 101 and 102. M., W., F., at 9. Professor Siebert.

This course traces the rise of our modern civilization, treating of the revival of letters and art, the spread of education, the early developments of modern science, the geographical discoveries, and the political, social and ecclesiastical changes which occurred during the same period.

110. The Period of the Reformation. Three credit hours. Second semester. Prerequisite, courses 101 and 102. M., W., F., at 9. Professor Siebert.

Reformational movements from the time of the death of Dante (1321) to the Council of Trent (1562).

111. The French Revolutionary and Napoleonic Periods, 1789-1815. Three credit hours. First semester. Prerequisite, courses 101 and 102. M., W., F., at 1. Assistant Professor Perkins.

112. Europe in the Nineteenth Century. Three credit hours. Second semester. Prerequisite, courses 101 and 102. M., W., F., at 1. Assistant Professor Perkins.

Especial emphasis on the past fifty years and the interpretation of recent events in Europe.

113-114. Constitutional History of England. Three credit

hours. The year. Prerequisite, courses 101 and 102. Tu., Th., F., at 10. Professor Siebert.

Intended for students especially interested in the institutional side of English and American History, and in Political Science, and for those taking the Arts-Law course, or expecting to enter the law school.

***115. Europe and Africa, India and Australia.** Two credit hours. First semester. Prerequisite, courses 101 and 102. Professor Siebert.

***116. Europe and Turkey. The Eastern Question.** Two credit hours. Second semester. Prerequisite, courses 101 and 102. Professor Siebert.

117. Northeastern Europe. Two credit hours. First semester. Prerequisite, courses 101 and 102. Tu., Th., at 9. Professor Siebert.

118. Europe and Asia. The Far Eastern Question. Two credit hours. Second semester. Prerequisite, courses 101 and 102. Tu., Th., at 9. Professor Siebert.

***119-120. History of Germany.** Two credit hours. The year. Open to second, third and fourth year students without prerequisite. Associate Professor McNeal.

121-122. History of France. Two credit hours. The year. Open to second, third or fourth year students without prerequisite. Tu., Th., at 10. Associate Professor McNeal.

A general course in French History since the formation of the French Monarchy in 987, but with special attention to the interests of the students of French language or literatures. A reading knowledge of French is not required, but is desirable.

Exclusively for Graduates

203-204. Seminar in Modern European History. Two credit hours. The year. Open only by permission of instructor. Time to be arranged. Professor Siebert.

201-202. Seminar in Medieval History. Reading of the sources of some period in the Middle Ages. Two credit hours. The year. Open only by permission of instructor. Time to be arranged. Associate Professor McNeal.

* Not given in 1912-1913.

FRENCH

(See Romance Languages)

GEOLOGY

(Office, Room 1, Orton Hall)

PROFESSOR PROSSER, PROFESSOR BOWNOCKER, ASSISTANT PROFESSOR HILLS,
MR. MORSE, MISS MARK

For Undergraduates

101-102. Physiography. Three credit hours. The year. M., W., F., at 8 or 1; Tu., Th., S., at 9. Open to freshmen and sophomores only.

Three field trips are made Saturdays in each semester, each trip taking the place of a recitation. During January, February and March, the Monday or Saturday recitation is replaced by laboratory work, time to be arranged. Professor Bownocker, Assistant Professor Hills, Miss Mark.

Physiographic features on the earth's surface; the ocean, and the atmosphere. Recitations, lectures, and assigned readings, illustrated with models and lantern views.

103. Inorganic Geology. Three credit hours. First semester. M., W., F., at 9. Professor Bownocker.

Introductory course. Petrographical, structural and dynamical geology. Study of common minerals and rocks, and geological maps. The course is illustrated with lantern views, models and museum materials.

104. Historical Geology. Three credit hours. Second semester. M., W., F., at 9. Prerequisite, Geology 103. Professor Prosser.

A general course in paleontological and stratigraphical geology, illustrated by lantern views, maps, and specimens. The development of organisms and the classification and distribution of the geological formations, especially those of Ohio, are considered. Every other week after the first of April there will be field trips on Saturday in place of the Friday lecture.

[Courses 103 and 104 are considered as forming a general course in geology which is required before advanced work in physiography, historical or inorganic geology.]

166. Petrography. Two credit hours. Second semester.

Th., at 11; W., 2-4. Prerequisite, Geology 103, and Chemistry. Professor Bownocker and Assistant Professor Hills.

A study of hand specimens of igneous, metamorphic and sedimentary rocks. More than one-half of the time will be devoted to laboratory work.

For Advanced Undergraduates and Graduates

105. Field Geology. Three to five credit hours. First semester. Time to be arranged. Lectures, assigned reading, field trips and laboratory work. Field trips generally on Saturdays while weather permits, laboratory work for the remainder of the semester. Prerequisite, Geology 103-104. Professor Prosser.

Study of the geological formations readily accessible from Columbus, and identification of fossils characteristic of different formations. This course is intended to acquaint the student with the ordinary methods of field investigation, and involves the collection and identification of specimens, the measurement of geological sections and the preparation of a report describing the region studied. Occasionally longer geological excursions will be arranged.

106. Glacial Geology. Three credit hours. Second semester. Time to be arranged. Prerequisite, Geology 103-104. Professor Bownocker.

A study of the glacial geology of North America. The first half of the semester will be given to lectures, assigned readings and map work. The second half, largely to field work and the preparation of reports, the field work being on Saturdays.

107-108. Invertebrate Paleontology. Two to five credit hours. The year. Laboratory open afternoons, 1 to 4, and on certain days in the morning. Prerequisite, Geology 103-104. Professor Prosser and Mr. Morse.

Careful training in systematic classification which may be used in the philosophical study of the development of plant and animal life, or as a means of becoming acquainted with the fauna and flora that characterize the various geological formations. At first the student devotes some time to conchology, studying recent shells in which the characters used in classification are well preserved, and after this preliminary work, fossils are studied. Fossils afford the most reliable data for identifying

and correlating geological formations, and the critical study of faunas is a field especially adapted to independent research. Laboratory, museum, and field work.

109-110. Microscopical Petrography. Two to five credit hours. The year. Time to be arranged. Prerequisite, Chemistry, Mineralogy, and Geology 103-104. Professor **Bownocker**.

Optical crystallography, with practical determination of rock forming minerals, macroscopically and microscopically. Study of the igneous rocks in the hand specimen and thin section. The preparation of thin sections.

111-112. Physiography of Central Ohio. Field and laboratory course. Three to five credit hours. The year. Time to be arranged. Prerequisite, Geology 101-102, and 103-104, or 103-104 concurrently. Assistant Professor **Hills**.

Three field trips per week. During December, January and February, trips are replaced by work in wet laboratory and blackboard representation of topographic forms.

113-114. Areal Geology. Two to five credit hours. The year. Field work fall and spring, laboratory work in winter. Laboratory open afternoons, 1 to 4. Prerequisite, Geology 103-104; 105-106, and 107-108 for Paleozoic group, and 101-102, 103-104, and 105-106 for Cenozoic group. Professor **Prosser** and Assistant Professor **Hills**.

Instruction in the methods of preparing geological maps and reports for both the Paleozoic and Cenozoic groups. Outcrops are traced in the field and a colored geological map is prepared, together with sections showing the geological structure.

115. Economic Resources of the United States. One credit hour. First semester. Th., at 1. Must be taken in conjunction with Geology 167. Prerequisite, Geology 101-102 or 103-104, and Economics 135-136. Professor **Bownocker**.

141-142. Minor Investigations and Current Literature. Two to five credit hours. The year. Time to be arranged. A study of special topics and current literature in geology. Assigned readings, conferences, and reports. (a) **Historical Geology.** Prerequisite, Geology, 103-104 required. Geology 101-102 is recommended. Professor **Prosser**. (b) **Inorganic Geology.** Prerequisite, Geology 167. Professor **Bownocker**. (c) **Physiog-**

raphy. Prerequisite, Geology 101-102, 103, and 104. Assistant Professor Hills.

167. Economic Geology. Three credit hours. First semester. M., W., F., at 8. Prerequisite, Geology 103-104. Professor Bownocker.

The nature of ores, their classification and origin. The metallic ores of the United States, their distribution, abundance, modes of occurrence, and origin. The non-metals, coal, oil, gas, clay, lime, cement, building stones, etc. In the discussion of the non-metals, emphasis will be laid on the resources of Ohio.

For Graduates

201-202. Advanced Historical Geology. Three to five credit hours. The year. Laboratory open afternoons, 1 to 4. Prerequisite, Geology 103-104, and 107-108. Professor Prosser.

Advanced work in paleontology and stratigraphical geology.

203-204. Research Work. Three to five credit hours. The year. Prerequisite, preceding courses in inorganic or historical geology. Field, laboratory, and library study is offered along two lines. Outline of work and time will be arranged with individual students. (a) **Stratigraphy and Paleontology.** The investigations of some field problem in stratigraphy with laboratory and library study or of some special subject in paleontology. Professor Prosser. (b) **Economic Geology.** The investigation of some field problem in petroleum, natural gas, coal, or salt. Professor Bownocker.

GERMAN

(Offices, Rooms 317, 318, University Hall)

PROFESSOR EVANS, ASSOCIATE PROFESSOR EISENLOHR, ASSISTANT PROFESSORS THOMAS, BARROWS AND LEWISOHN, DR. BUSEY

Unless specially designated "the year," all courses may be taken by the semester. If a new course is to be elected, however, for the second semester, the consent of the instructor in charge must first be obtained.

For Undergraduates

101-102. Elementary German. Four credit hours. The year. Eight sections. M., W., F., Sat., at 8; M., Tu., Th., F., at 9, 10, 11, 2; Tu., W., Th., F., at 3. All instructors.

The essentials of Grammar and the reading of easy German narrative prose.

103. Intermediate German. Four credit hours. First semester. Prerequisite, 101-102, or two entrance units. Not open to students who enter with four entrance units in German. Eight sections. Tu., W., Th., F., at 8; M., Tu., Th., F., at 9, 10, 2; M., W., F., Sat., at 11. All instructors.

Reading of narrative prose, a classical drama supplemented by discussions of syntax; prose composition.

104. Easy Classical Reading and Composition. Four credit hours. Second semester. Prerequisite, course 103, or three entrance units. Not open to students who enter with four entrance units. Five sections. Tu., W., Th., F., at 8; M., Tu., Th., F., at 10, 2; and M., W., F., Sat., at 11.

Reading of, (a) a classical drama supplemented by discussions and lectures on the structure of the drama, its characters, and its historical background; (b) other literature of the classical or romantic period; prose composition.

106. Science Reading. Four credit hours. Second semester. Prerequisite, course 103, or three entrance units. Three sections. M., Tu., Th., F., at 9, 10, 2.

Rapid reading of technical literature. This is preceded or accompanied by drill on word formation, word compounds, sentence structure. The object of the course is to enable the student to read German technical literature.

107-108. Advanced German. Four credit hours. Modern and classical prose and verse. Oral and written practise. Open only to freshmen with four entrance units in German. M., Tu., Th., F., at 10. Dr. Busey.

115-116. Classical and Modern Writers. Two credit hours. The year. Selections from the 18th and 19th century writers; written and oral exercises. Tu., Th., at 9. Assistant Professor Barrows.

117-118. Schiller: Introduction to Life and Works. Two credit hours. First semester: *Gedichte*, *Don Carlos*, *Braut von Messina*. Second semester: *Wallenstein*, *Dreissigjähriger Krieg*. Tu., Th., at 11. Assistant Professor Thomas.

119-120. Nineteenth Century Drama. Two credit hours. The year. Selected dramas read and interpreted in class. The interpre

tation will take the form of simple lectures in German to be reproduced orally and in writing by the student. First semester: Selections from Kleist, Grillparger, Hebbel, Ludwig. Second semester: Selections from Wildenbruch, Sudermann, Hauptmann, Fulda. Tu., Th., at 10. Assistant Professor Lewisohn.

***123-124. Nineteenth Century Novel.** Two credit hours. The year. This course will be identical in aim and method with 119-120, with which it alternates. Assistant Professor Lewisohn.

131-132. Conversation and Prose Composition. Two credit hours. The year. Prerequisite, consent of the instructor. Two sections. Tu., Th., at 9 and 11. Associate Professor Eisenlohr, Dr. Busey.

Courses 115-132, not open to freshmen, require as prerequisite Course 104 or its equivalent. Course 115-116, offering a considerable amount of intensive oral and written work, is especially recommended for students desiring to take German as a major subject. Courses 117 to 124 are primarily reading courses. No student may elect more than two-year courses in the group 107 to 124. A combination of course 131-132 with one of the courses 115 to 124 is advised.

Advanced Undergraduates and Graduates

Prerequisite: At least one year course in the group 107 to 124 or the equivalent

***151-152. Goethe. Introduction to Life and Works.** Three credit hours. The year. First semester: Selections from lyrics, earlier dramas and prose. Second semester: Faust. Professor Evans.

153-154. Survey of German Literature. Three credit hours. The year. Lectures, interpretation of selected texts and parallel readings. First semester: From the beginnings to Lessing. Second semester: Classical period and nineteenth century. M., W., F., at 11. Professor Evans.

155-156. Lessing. Introduction to Life and Works. Two credit hours. The year. First semester: Dramas. Second semester: Critical writings. Tu., Th., at 11. Associate Professor Eisenlohr.

* Not given in 1912-1913.

***157. Volkslied.** Two credit hours. Studies in the origin and growth of the German Folksong with special reference to German life and culture. Associate Professor **Eisenlohr**.

***158. Volksbücher, Märchen und Sagen.** Two credit hours. Studies in popular and legendary literature. Associate Professor **Eisenlohr**.

***159. Heine. Introduction to Life and Works.** Two credit hours. First semester. Assistant Professor **Barrows**.

***160. Heibel. Introduction to Life and Works.** Two credit hours. Second semester. Assistant Professor **Barrows**.

***161-162. Romantic Writers.** Two credit hours. The year. Lectures on the Romantic Movement with the reading of representative texts. First semester: Selections from Novalis, Tieck, Arnim. Second semester: Selections from Eichendorff, Uhland, Hoffmann. Assistant Professor **Thomas**.

171-172. Advanced Prose Composition. Two credit hours. The year. Open only on consent of instructor. Tu., Th., at 2. Associate Professor **Eisenlohr**.

173. The Teaching of German. Two credit hours. First semester. A critical study of the methods of teaching modern foreign languages. Lectures, reports and practise teaching. Open only to seniors and graduate students. Tu., Th., at 3. Professor **Evans**.

174. Grammar Review. Two credit hours. Second semester. A detailed discussion of theoretical grammar from the standpoint of the high school teacher. Open only to seniors and graduate students. Tu., Th., at 3. Professor **Evans**.

175. Phonetics. Two credit hours. First semester. A study of speech sounds with special reference to German and English. Tu., Th., at 8. Assistant Professor **Barrows**.

176. Interpretative Reading. Two credit hours. Second semester. Practise in reading narrative and dramatic prose and verse with the memorizing of certain selections. Not open to graduate students for credit. Tu., Th., at 8. Assistant Professor **Barrows**.

177. Middle High German. Two credit hours. First semester.

* Not given in 1912-1913.

ter. Introductory course. Grammar and selected readings. M., W., at 3. Dr. Busey.

178. **History of the German Language.** Two credit hours. Second semester. Lectures and illustrative readings, with special reference to the needs of those intending to teach. M., W., at 3. Dr. Busey.

Exclusively for Graduates

*201-202. **Advanced Middle High German.** Two credit hours. The year. A critical study of German literature in the 12th and 13th centuries. Associate Professor Eisenlohr.

*203. **Gothic.** Two credit hours. First semester. A philological and critical study of selections from the Bible of Ulfilas. Assistant Professor Thomas.

*204. **Old High German.** Two credit hours. Second semester. Studies in the German language and literature of the period. Assistant Professor Thomas.

207-208. **The Literature of the Empire (1870-1895).** Two credit hours. The year. The rise and decline of the naturalistic school and the rise of neo-romanticism in connection with the parallel movements in philosophy and in French and English literature. Lectures, readings and special reports. Th., 4-6. Assistant Professor Lewisohn.

215-216. **Seminar in German Literature.** Two credit hours. The year. The aim is to train graduate students in the scientific methods of the historical and critical study of literature. The course will deal in alternate years with the historical development of the German drama up to Lessing and with the classical period. 1911-1912: History of the German Drama from the Renaissance to Lessing. 1912-1913: Schiller. Tu., 4-6. Professor Evans.

GREEK LANGUAGE AND LITERATURE

(Office, Room 307, University Hall)

PROFESSORS SMITH AND HODGMAN, MISS THOMAS

101-102. **Elementary Greek.** Four credit hours. The year. M., Tu., Th., F., at 11. Miss Thomas.

* Not given in 1912-1913.

105. Xenophon: The Memorabilia of Socrates; exercises in Greek Prose. **Herodotus:** selections; with studies in Greek History. Four credit hours. First semester. M., Tu., Th., F., at 11. Prerequisite, course 101-102. Professor Smith.

106. Herodotus, continued. **Homer:** Odyssey, selections from Books I-IX. Four credit hours. Second semester. M., Tu., Th., F., at 11. Prerequisite, course 105. Professor Smith.

107. Lysias: Eight Orations; with studies in Attic Procedure. **Plato:** Apology of Socrates and Crito. Three credit hours. First semester. Tu., Th., F., at 10. Prerequisite, courses 105-106. Professor Smith.

108. Plato: Crito and Phaedo. **Homer:** Iliad, selections. Three credit hours. Second semester. Tu., Th., F., at 10. Prerequisite, courses 105-107. Professor Smith.

109. Thucydides: Book I or Book VII. **Demosthenes:** Olynthiacs. Two credit hours. First semester. Prerequisite, courses 105-106. Professor Hodgman.

110. Demosthenes: Philippics. **Theocritus:** selections. Two credit hours. Second semester. Prerequisite, courses 105-108. Professor Hodgman.

111. Attic Drama. Euripides: Alcestis; **Sophocles:** Oedipus Tyrannus; with lectures on Scenic Antiquities. Two credit hours. First semester. Prerequisite, courses 105-108. Professor Hodgman.

112. Attic Drama. Continuation of course 111; two plays. Two credit hours. Second semester. Professor Hodgman.

113. Epic Poetry: selections. **Aristophanes:** The Birds. Two credit hours. First semester. Prerequisite, courses 105-108. Professor Smith.

114. Aristophanes: The Clouds. **Post-Classical Greek:** Lucian. Two credit hours. Second semester. Prerequisite, courses 105-108. Professor Smith.

***115. Ancient Art.** Lectures on Architecture and Sculpture. Two credit hours. First semester. Tu., Th., at 1. No prerequisite course. Professor Smith.

***116. Ancient Art.** Continuation of course 115. Two credit hours. Second semester. Tu., Th., at 1. Professor Smith.

* Not given in 1912-1913.

Courses 115, 116 are given biennially, alternating with courses 117, 118. They will not be given again until 1913-1914.

117. Mediaeval Art. Lectures on Architecture and Sculpture. Two credit hours. First semester. Tu., Th., at 1. No prerequisite course. Professor **Smith**.

118. Mediaeval Art. Lectures on Sculpture and Painting. Two credit hours. Second semester. Tu., Th., at 1. Professor **Smith**.

119. Readings in Greek Philosophy. Two credit hours. First semester. Prerequisite, courses 105-108. W., F., at 2. Professor **Smith**.

120. Studies in New Testament Greek. Two credit hours. Second semester. Prerequisite, courses 105-108. W., F., at 2. Professor **Smith**.

121-122. Historical Grammar. One credit hour. The year. Prerequisite, courses 105-106. Professor **Hodgman**.

123. Life and Literature of the Greeks. Lectures on Private Life, and on Epic and Lyric Poetry. Two credit hours. First semester. Tu., Th., at 2. No prerequisite course. Professor **Smith**.

124. History of Greek Literature. Continuation of course 123. Lectures on Dramatic Poets, Historians, Philosophers, and Orators. Two credit hours. Second semester, Tu., Th., at 2. Professor **Smith**.

Courses 123 and 124 are open to students without a knowledge of Greek.

HISTORY

(See American History and European History.)

ITALIAN

(See Romance Languages)

LATIN LANGUAGE AND LITERATURE

(Office, Room 307, University Hall)

PROFESSORS **DERBY**, **HODGMAN** AND **ELDEN**

101. Cicero: De Senectute and De Amicitia; **Horace:** Odes. Four credit hours. First semester. Prerequisite, four units of preparatory Latin. M., Tu., Th., F., at 10; Tu., Th., F., Sat., at 11; Tu., W., Th., F., at 2. Professors **Derby**, **Hodgman** and **Elden**.

102. Horace: Odes, or Ovid: Metamorphoses; Livy or Sallust, or Prose Composition. Four credit hours. First semester. Prerequisite, course 101. M., Tu., Th., F., at 10; Tu., Th., F., Sat., at 11; Tu., W., Th., F., at 2. Professors **Derby, Hodgman and Elden.**

103. Pliny or Cicero: Selected Letters; Catullus or Tacitus. Three credit hours. First semester. Prerequisite, courses 101-102. M., W., F., at 9 and 3. Professors **Derby and Hodgman.**

104. Latin Comedy: Plautus and Terence, three plays. Three credit hours. Second semester. Prerequisite, course 103. M., W., F., at 9 and 3. Professors **Derby and Hodgman.**

105. Roman Satire: Horace, Juvenal and Persius. Two credit hours. First semester. Prerequisite, courses 101-104. Tu., Th., at 9. Professor **Elden.**

106. The Roman Novel: Petronius; Seneca; Selections. Two credit hours. Second semester. Prerequisite, courses 101 to 104. Tu., Th., at 9. Professor **Hodgman.**

Courses 105-106 are important for Juniors and Seniors.

107-108. Roman Private Life. One credit hour. The year. Prerequisite, courses 101-102. M., at 2. Professor **Derby.**

109-110. Quiz and Review. The year. One credit hour.

This course will discuss, chiefly by lecture and report, the elements of subjects which are comprised under the general head of Latin Philology and are of value to teachers of Latin.

111-112. Roman and Comparative Literature. One credit hour. The year. Th., at 3. Professor **Elden.**

Course 111-112 consists of lectures and assigned reading on Roman Literature and its influence on modern writers. Open and useful not only to students of Latin, but also to those without a knowledge of Latin who desire to become acquainted with the broader outlines of Roman Literature and its influence upon the literatures of France, Germany, and England.

113-114. Pro-Seminar. Three credit hours. The year. M., W., F., at 9. Professor **Elden.**

115-116. Latin Prose Composition. Three credit hours. The year. M., Tu., F., at 10. Professor **Hodgman.**

For Advanced Undergraduates and Graduates

Before entering upon graduate work in this department, the student should have had, in addition to the usual preparatory course of four years, not less than three years of collegiate study of Latin.

The plan of study for the second degree (A. M.) with Latin as the major or minor subject, should not include more than one of the courses 107 to 116; as a rule, these courses should be taken by undergraduates.

The ability to use French or German works of reference, a good knowledge of ancient history and of English literature will be found especially useful. Greek 115-116 (Greek Art), and Greek 117-118 (Mediaeval Art), are recommended.

Lines of reading and of investigation, supplementary to the regular graduate courses and necessary to a symmetrical knowledge of the language, literature, and life of the Roman people, will be required according to the needs of the individual student.

123-124. Historical Latin Grammar. Sounds and inflections. One credit hour. The year. Prerequisite, Courses 101-104. Th., at 10. Professor Hodgman.

This course treats of pronunciation, ablaut, vowel and consonant changes—especially vowel weakening—accent, inflection, and other similar topics essential to the understanding of the principles which govern the development of the Latin language.

125-126. Historical Latin Grammar. Syntax. One credit hour. The year. Prerequisite, Courses 101-104. Th., at 2. Professor Elden.

Lectures on the problems connected with the origin and developments of certain constructions in Latin syntax; a treatment along historical lines of the syntactic uses of the cases, modes, and tenses.

Courses 123-126 are deemed essential for those who make Latin a major or minor subject of study in graduate work, and are recommended for advanced undergraduate study.

119-120. Advanced Latin Composition. One or two credit hours. The year. Time to be arranged. Prerequisite, Courses 115-116. Professor Hodgman.

Translation of English narrative and study of Latin idioms.

121. Roman Prose Authors: Cicero, Seneca, Quintilian, Suetonius, or Tacitus. Two to five credit hours. First semester. Time to be arranged.

122. Roman Poets: Plautus, Terence, Lucretius, Vergil, Ovid, Lucan, Statius, Martial, or Silius Italicus. Two to five credit hours. Second semester. Time to be arranged.

Courses 121-122 are designed to give an opportunity to read a considerable portion of the author chosen, and are open to advanced students only. At the option of the instructor, the study of one author may be continued during the year. Professors Derby, Hodgman and Elden.

Exclusively for Graduates

201-202. Roman Religion. One or two credit hours. The year. Time to be arranged. Professor Hodgman.

Lectures, and Fasti of Ovid.

***203-204. Latin Literature.** One hour. The year. Professor Elden.

***207-208. Seminar.** Two credit hours. The year.

***211-212. Latin Philology.** One credit hour. The year.

***213-214. Elements of Epigraphy and Paleography.** Two or three hours. The year. Time to be arranged. Professor Derby.

215-216. Roman Antiquities and Archaeology. One to three credit hours. The year. Professor Derby.

Special topics related to the subjects named above may be pursued under supervision of the instructor, and graduate students, with consent of the department, may earn an additional credit hour in any course primarily for graduates. Such lines of reading and individual investigations will usually be supplementary to the regular graduate courses.

* Not given 1912-1913.

MATHEMATICS

(Office, Room 314, University Hall)

PROFESSORS BOHANNAN, MCCOARD, SWARTZEL, KUHN, ASSOCIATE PROFESSORS ARNOLD, RASOR, ASSISTANT PROFESSORS PRESTON, BAREIS, MORRIS AND WEST, MISS RICKARD, MR. HEBBERT

Students intending to make Mathematics a specialty are advised to secure a reading knowledge of French and German and Italian by the beginning of the junior year, and to take some courses in Philosophy, particularly logic, in the junior and senior years.

121. Trigonometry and College Algebra. Three credit hours. First semester. M., W., F., at 9, 11, 1; Tu., Th., S., at 8, 9. Professors Bohannan, McCoard, Swartzel, Kuhn, Associate Professor Rasor, Assistant Professor Morris.

122. College Algebra and Analytical Geometry. Three credit hours. Second semester. M., W., F., at 9, 11, 1; Tu., Th., Sat., at 8, 9. Professors McCoard, Swartzel, Kuhn, Associate Professor Rasor, Assistant Professor Morris.

***125-126. History of Elementary Mathematics.** Two credit hours. The year. Tu., Th., at 8. Associate Professor Arnold.

Especially the history of Algebra and Geometry, including a brief survey of the history and teaching of these subjects in the United States.

127-128. Calculus. Three credit hours. The year. M., W., F., at 9. Prerequisite, Mathematics 121, 122. Professor McCoard.

129-130. Mathematics of Statistics, Finance and Insurance. Three credit hours. The year. M., W., F., at 11. Prerequisite, Mathematics 122. Assistant Professor West.

An introductory course in the mathematical principles of Statistical Methods, Interest and Life Insurance, together with such practical problems in investments, loans, etc., as may be of value to the general student.

The following subjects are considered: averages, probability and derivation of formulae for the more useful constants, graphic representation of statistical data, graduation and curve

* Not given 1912-1913.

fitting, correlation, interpolation; compound interest and discount, rate of interest, interest tables, sinking funds, installment loans, depreciation, valuation and amortization of securities, mortality tables, annuities, calculation of premiums, reserves and valuation, dividends, classes of policies and policy conditions, options of settlement, etc. The work in statistics occupies the greater part of the first semester.

131. Trigonometry and College Algebra. Five credit hours. First semester. Daily at 8, 9, 11, 1, 2, or 3. Two sections at 8 or 9, repeat the work in the second semester. Professors **Bohannan, Swartzel, Kuhn**, Associate Professors **Arnold, Rasor**, Assistant Professors **Preston, Bareis, Morris and West**, Miss **Rickard**, Mr. **Hebbert**.

132. College Algebra and Analytical Geometry. Five credit hours. Second semester. Daily at 8, 9, 11, 1, 2, or 3. One section gives the work daily at 8, first semester. Professors **Bohannan, Swartzel, Kuhn**, Associate Professors **Arnold, Rasor**, Assistant Professors **Preston, Bareis, Morris and West**, Miss **Rickard**, Mr. **Hebbert**.

141-142. Calculus. Five credit hours. The year. Daily at 8, 9 or 11. During the second semester the work of the first semester is repeated at 8 or 9. One section gives the work of the second semester daily at 8 during the first semester. Prerequisite, Mathematics 121, 122, or 131, 132. Professors **Bohannan, McCoard, Swartzel, Kuhn**, Associate Professor **Rasor**, Assistant Professors **Bareis, Morris and West**.

For Advanced Undergraduates and Graduates

Prerequisite, Differential and Integral Calculus.

161. Determinants. Three credit hours. First semester. Assistant Professor **Bareis**.

162. Theory of Equations. Three credit hours. Second semester. Professor **McCoard**.

163-164. Plane and Solid Analytical Geometry. Three credit hours. The year. M., Tu., F., at 10. Associate Professor **Rasor**.

165-166. Advanced Calculus. Three credit hours. The year. M., Th., F., at 10. Assistant Professor **Morris**.

167-168. Differential Equations. Three credit hours. The year. M., Tu., Th., at 10. Professor **Swartzel**.

171. **Projective Geometry.** Three credit hours. First semester. M., Tu., F., at 10. Professor Bohannan.

172. **Non-Euclidian Geometry.** Three credit hours. Second semester. Professor Kuhn.

173. **Modern Higher Algebra.** Three credit hours. First semester. M., Th., F., at 10. Associate Professor Arnold.

174. **The Galois Theory of Equations.** Three credit hours. Second semester. Associate Professor Arnold.

For Graduates

201-202. Research Work.

(a) **Infinite Series and Products.** Associate Professor Arnold.

(b) **Theory of Functions of a Real Variable.** Associate Professor Rasor.

(c) **Calculus of Variations.** Professor Bohannan.

(d) **Theory of Functions of a Complex Variable.** Associate Professor Rasor.

(e) **Elliptic Functions.** Assistant Professor West.

(f) **Potential Functions.** Professor Swartzel.

(g) **Fourier's Series and Spherical Harmonics.** Professor Swartzel.

(h) **Groups.** Professor Kuhn.

(i) **Theory of Numbers.** Assistant Professor Morris.

(j) **Higher Plane Curves.** Professor McCoard.

(k) **invariants.** Professor Kuhn.

(l) **Differential Geometry.** Professor Bohannan.

(m) **The Mathematical Theory of Electricity and Magnetism.** Professor Bohannan.

(p) **The History of Mathematics.** Associate Professor Arnold.

(q) **Theory of Statistics.** Assistant Professor West.

MECHANICS

(Office, Room 233, Mines Building)

PROFESSOR J. E. BOYD, ASSOCIATE PROFESSOR CODDINGTON, MR. PERRY

101. **Statics, Strength of Materials.** Five credit hours. First semester. Daily at 8, 9 or 11. Prerequisite, Mathematics 141-142.

102. **Strength of Materials, Kinetics and Hydraulics.** Five

credit hours. Second semester. Daily at 8, 9 or 11. Prerequisite, Mechanics 101.

104. **Strength of Materials.** Two credit hours. M., F., at 10. Second semester. Prerequisite, Mechanics 101. Professor: Boyd.

105-106. **Advanced Theoretical Mechanics.** Three credit hours. The year. For graduates and advanced undergraduates. Prerequisite, Mechanics 102 and Differential Equations.

MILITARY SCIENCE AND TACTICS

(Office, The Armory)

CAPTAIN GEORGE L. CONVERSE, U. S. A., RETIRED

In accordance with the Morrill Act, passed in 1862, under which the University was established, military instruction must be included in the curriculum. The Board of Trustees, therefore, requires all male students, unless excused by the Military and Gymnasium Board, to drill during two years. This work is under an officer of the regular army, detailed for the purpose. The Military Department is open during five days each week throughout the year.

Equipment

The equipment of the Military Department comprises 1000 standard U. S. magazine rifles, with belts, bayonets and accoutrements, fifty-one regulation infantry officers' sabres and belts, twenty-five cadet swords and belts, a stand of regimental colors, with markers, guidons, etc. The target practise equipment comprises six Springfield gallery rifles and seven Winder-model Winchester gallery rifles, five targets for 100, 200 and 300 yards, and five Winder-model targets for long range. The band comprises sixty pieces, partly supplied by the University and partly owned by the members.

The office is equipped for recording the attendance and performance of each cadet in drill, target practise and classroom work.

Organization

Cadet regiment is organized into three battalions of four companies each, a band, and trumpet corps. Each battalion has its own staff officers. The total number of men under arms averages about 1000 at present. Service in the band is credited

as military service. The appointment of cadet officers during the second year of service is for excellence in their work. These officers may continue to serve during the third and fourth years if they wish, and if they do, are given compensation at the end of each year's satisfactory service, amounting to not less than twenty (\$20.00) dollars for lieutenants and captains, and larger sums for officers of higher ranks. Members of the band who volunteer for service after having completed their two years required duty, are also paid at the rate of \$20.00 per year, and receive instruction during the four winter months by a competent band-master.

Subjects in Which Instruction is Offered

1. **Military Drill.** One credit hour. M., W., F., at 11, Th., at 4; M., Tu., W., Th., at 4. Five months, three hours per week (divided between fall and spring) military drill; four months, three hours per week (winter) of class-room instruction in drill regulations. Target practise at any open hour during the afternoons of the winter months, at 100, 200 and 300 yards. Lecture, one hour weekly, by the President, upon topics of common interest to the student body.

2. **Military Drill.** One credit hour. M., W., F., at 11, Th., at 4; M., Tu., W., Th., at 4. Five months, three hours per week (divided between fall and spring), in extended order and guard duty. Four months, three hours per week (winter) of class-room instruction in Articles of War, guard manual and field service regulations. Target practise, at any open hour of the afternoon of the winter months, at 500, 600 and 800 yards.

PHILOSOPHY

(Office, Room 321, University Hall)

PROFESSOR LEIGHTON, PROFESSOR DAVIES

For Undergraduates

101. **Introduction to Philosophy.** First semester. Three credit hours. Open to first year students. M., W., F., at 9. Professor Leighton.

The meaning and scope of philosophy, its typical problems, its relations to the special sciences, morality, art, the state, and religion.

102. Introductory Logic. Second semester. Three credit hours. Open to first year students. M. W., F., at 9. Professor **Davies.**

A practise course in the methods of correct thinking.

103. Introductory Logic. First semester. Tu., Th., Sat., at 11. Professor **Leighton.**

105-106. Elementary Ethics. The year. Three credit hours. Not open to first year students. M., W., F., at 11. Professor **Davies.**

This course is an introduction to the study of the moral life as it appears in the individual and in society.

115-116. Aesthetics. The year. Two credit hours. Open to first year students. Tu., Th., at 2. Professor **Davies.**

An elementary study of the beautiful in nature and in art.

151-152. History of Philosophy. The year. Three credit hours. Not open to first year students. M., W., F., at 11. Professor **Leighton.**

In this course the history of reflective thinking on the problems of human life and the world-order will be traced in outline, from the dawn of Greek speculation to the rise of the modern doctrine of evolution. Constant regard will be had to the relation of philosophy to social, literary, and scientific movements.

***155-156. History of Christian Philosophy.** The year. Three credit hours. Open to first-year students. Professor **Davies.**

A study of the source material in the New Testament and of the stages through which this material was developed into the scholastic systems of the Middle Ages.

For Advanced Undergraduates and Graduates

111-112. Advanced Ethics. The year. Two credit hours. Tu., Th., at 3. Prerequisite, one year in philosophy, psychology, or sociology, and one year in a related subject. Professor **Davies.**

A course in the origin and development of morality, in the light of our more recent knowledge in anthropology, sociology, and psychology. Text: Davies's *The Moral Life; A Study in Genetic Ethics.*

* Not given in 1912-13.

113-114. Advanced Logic. The year. Three credit hours. M., W., F., at 1. Prerequisite, Philosophy 102 or 103, and one year in Psychology, Sociology, Mathematics, or Natural Science. Professor **Davies**.

A systematic study of the conditions, criteria, nature and degrees of truth.

***119. Philosophy of Religion.** First semester. Three credit hours. Prerequisite, one year's work in Philosophy or Psychology. Professor **Leighton**.

An account of the actual nature of religion, as shown in its chief historical and psychological phenomena, and an interpretation of its significance for culture and the truth of its leading conceptions.

121-122. Metaphysics. The year. Two credit hours. Tu., Th., at 2. Prerequisite, at least one year's work in Philosophy and in Psychology or a natural science. Professor **Leighton**.

This course is a systematic discussion of the fundamental problems of theoretical philosophy; the meaning of truth and its relations to reality, the philosophy of nature, and of the human self, the problems of freedom, evil, immortality, and theism.

127. British Philosophy From Bacon to Hume. First semester. Two credit hours. Tu., Th., at 1. Prerequisite, Philosophy 151-152, and an additional year in Philosophy, Psychology, or a related subject. Professor **Davies**.

An historical course, covering the period of British Empiricism.

128. Continental Philosophy from Descartes to Leibnitz. Second semester. Two credit hours. Tu., Th., at 1. Prerequisite, the same as for Philosophy 127. Professor **Davies**.

An historical course, covering the period of continental rationalism.

129-130. The Humanistic Movement. The year. Three credit hours. M., W., F., at 2. Prerequisite, two years in Philosophy, or Psychology, or one year in Philosophy and one year in a related subject. Professor **Davies**.

Traces the problem of man in the history of culture, and studies the meaning of this problem for a philosophy of life.

* Not given in 1912-1913.

***131-132. Philosophy of Values.** The year. Three credit hours. Prerequisite, one year in Philosophy, Psychology, or Economics and Sociology and one year in a related subject. Professor Davies.

A study of the foundations of our economic, social, ethical, aesthetical and religious judgments, and of the nature of the objects of these judgments.

137. The Philosophy of Kant. First semester. Two credit hours. Tu., Th., at 3. Prerequisite, two years' work including Philosophy 151-152. Professor Leighton.

A study of the system of Kant in its historical relations and present significance.

138. The Philosophy of Hegel. Second semester. Two credit hours. Tu., Th., at 3. Prerequisite, the same as for Course 137, which should precede this course. Professor Leighton.

A study of Hegel's system in its historical relations, with an estimate of its present value.

142. The Main Currents of Nineteenth Century Thought. Second semester. Three credit hours. Tu., Th., S., at 11. Prerequisite, one year's work in Philosophy, Psychology, or Sociology, and one year's work in the history of modern English, French, or German literature, or one year's work in Biological Evolution or the History of Chemical or Physical Theory. Professor Leighton.

A non-technical account and estimate of the chief formative influences in the reflective life of the nineteenth century. Intended for students of literature, science, and social movements.

Exclusively for Graduates

201-202. Graduate Seminars. The year. Two to five credit hours. Opportunities for research, depending on the previous training and special interests of individual students, will be afforded in (a) The History of Philosophy, (b) Logic and the Theory of the Sciences, (c) Metaphysics, (d) Ethics, and (e) The Philosophy of Religion. Professors Leighton and Davies.

***205-206. The Philosophy of Mind.** The year. Two credit hours. Prerequisite, one year's work in Philosophy and Psychology. Professor Davies.

* Not given in 1912-1913.

A study of the problems growing out of the nature of mind and its place in history and the material universe.

***207-208. Contemporary Philosophical Issues.** The year. Two to three credit hours. Prerequisite, two years in Philosophy and Psychology, including either Philosophy 151-152, 127-128, or 137-138. Professor Leighton.

An expository and critical discussion of recent pragmatism, humanism, realism, pluralism, and personal idealism.

PHYSICAL EDUCATION

DR. H. S. WINGERT, DIRECTOR

The work in Physical Education for men and women is conducted under the direct supervision of the Professor of Physical Education, who is a graduate physician. For the men's work he has two assistants and twenty student aids, who are selected each year from those who show proficiency in their work. For the women's work there is an associate professor, who is a graduate physician. She has a student assistant and twenty aids, who are chosen because of their proficiency.

The main floor of the gymnasium (80x150 feet) is well equipped with modern gymnastic apparatus. It is used by the women in the forenoon, while the men exercise in the gymnasium on the first floor. In the afternoon the main floor is used exclusively by the men for class work, athletics, basketball, and other recreative games.

(A) FOR MEN

(The Gymnasium)

PROFESSOR WINGERT, MR. BAUER, MR. ALEXANDER

1. **Physical Education.** One credit hour. Two hours per week. The year. Required of all first-year students in this college. M., Tu., W., Th., 9, 10, 11, or 2 or 3; F., 9, 10, 2, 3 or 4. Any two days a week. This course consists of (a) Lectures on hygiene and physiology of exercise first two weeks, first semester, (b) Corrective: A graded course of freehand exercise, stretching, relaxing, stimulating, exercise with light hand apparatus for the relief and correction of slight body defects, deformities, improper carriage, etc. (c) Educative: Graded pro-

* Not given in 1912-1913.

gressive exercise on the apparatus and mats to promote muscular tone, vigor, vitality, endurance. (d) Recreative: Gymnasium games, mental relaxation, non-competitive exercises.

A thorough physical examination is made of each student at the opening and closing of the college year. Physical defects, abnormalities, and weaknesses are noted, and judicious, healthful exercise is prescribed to fit the student's individual needs.

2. Advanced Exercises. Elective. (a) Advanced exercises on the apparatus and mats. (b) Combative exercises—boxing, fencing, wrestling. A small charge is made to those electing this work. (c) Recreative—football, baseball, basketball, tennis, track and field sport, cross-country running, etc. (d) Swimming—a good pool is provided for this exercise. Special hours are arranged for those electing the above exercises and credit given in regular course.

(B) FOR WOMEN

(The Gymnasium)

DR. LITTLEJOHN, MISS SAUER

1. Physical Education. One credit hour. Four hours per week during the first year of a student's residence. M., Tu., Th., F., at 9 or 10. (a) Lectures on hygiene and purpose of different kinds of physical exercises, four hours per week, first two weeks of first semester, first week of second semester. (b) Practical work in gymnasium, as follows: (1) Corrective work; exercises for correction of faulty position of different parts of body, and of deformities; for development of chest, etc. (2) Educative work: exercises to develop co-ordination of groups of muscles, accuracy of movement, and to impart grace and beauty and a ready expression of thought in physical motions. (3) Recreative: classic dancing, and rhythmic movements, gymnastic games, and relaxing exercises. (4) Athletics (elective): carefully supervised basketball, running, swimming, etc., for those who desire it. A physical examination is made by the directors of every woman entering this course before she can begin the gymnasium work, and, if necessary, special work will be prescribed to meet her physical needs. A second examination is made at the close of each college year.

2. Physical Education. One credit hour. The year. Four

hours per week during the second year of a students residence. M., Tu., Th., F., at 11; W., at 9 or 11.

PHYSICS

(Office, Room 24, Physics Hall)

PROFESSOR COLE, ASSOCIATE PROFESSORS EARHART, BLAKE, SHEARD,
SMITH, BARNETT

103-104. General Physics. Four credit hours. The year. Recitations and lectures, Tu., Th., F., at 8, and laboratory W., 2 to 4. A non-mathematical course for students who have no entrance credit in physics. Associate Professor Earhart.

105-106. General Physics. Four credit hours. The year. Lectures M., W., at 8 or 2, and laboratory, Tu., Th., 8 to 10, or Th., F., 2 to 4. Prerequisite, entrance credit in physics. Assistant Professor Blake.

121-122. Laboratory. Three to five credit hours. The year. M., Tu., W., 1 to 4. Prerequisite, Physics 103-104, or 105-106. Assistant Professor Smith.

For Advanced Undergraduates and Graduates

123-124. Advanced Laboratory. Three to five credit hours. The year. M., Tu., W., 1 to 4. Prerequisite, Physics 121-122. Assistant Professor Smith.

141-142. Advanced Mechanics and Molecular Physics. Three credit hours. The year. Tu., W., Th., 1 to 4. Prerequisite, Physics 103-104, or 105-106, and Mathematics 141-142 or 127-128. First semester, Mechanics, Assistant Professor Blake; second semester, Molecular Physics and Heat, Associate Professor Earhart.

This course alternates with 143-144.

***143-144. Advanced Light and Electricity.** Three credit hours. The year. Prerequisite, Physics 103-104 or 105-106, and Mathematics 141-142 or 127-128. First semester, Light, Assistant Professor Sheard; second semester, Electricity and Magnetism, Associate Professor Earhart.

This course alternates with 141-142.

Courses 141-142 and 143-144 together constitute a two-year

* Not given in 1912-1913.

cycle, moderately advanced, covering the whole subject of Physics.

145-146. Physical Seminar. One credit hour. The year. M., at 4. Prerequisite, two years of college work in physics or one year in physics and one in mathematics or chemistry. Associate Professor Earhart.

169-170. Theoretical Physics. An advanced course in Light. Two credit hours. The year. Prerequisite, Physics 105-106, and Mathematics 141-142, or equivalents. Assistant Professor Sheard.

127-128. The Theory and Practise of Electrical Measurements. Three to five credit hours. The year. Prerequisites, Physics 105-106, or equivalent; a course in Electrical Measurement, and Mathematics 141-142, or equivalent. Assistant Professor Barnett.

Exclusively for Graduates

201-202. Research laboratory. Three to five credit hours. The year. Prerequisites, two years' laboratory work in physics. Professor Cole, Associate Professor Earhart, Assistant Professors Blake, Smith, Sheard, Barnett.

203-204. Theoretical Mechanics. Three credit hours. The year. Prerequisites, Physics 105-106, and Mathematics 141-142, or equivalents. Assistant Professor Blake.

***205-206. Thermodynamics and Electrolytic Conduction.** Two credit hours. The year. Prerequisite, Physics 105-106, and Mathematics 141-142, or equivalents. Assistant Professor Smith.

207-208. Theory of Electricity and Magnetism. Three credit hours. The year. Prerequisites, Physics 105-106, and Mathematics 141-142, or equivalents. Assistant Professor Smith.

Courses 203-204, 205-206, 207-208, and 169-170 together form an advanced two-year cycle, covering the whole ground of physics.

***211-212. Theory of Oscillations With Their Applications to Wireless Telegraphy.** Two credit hours. The year. Prerequisite, Physics 105-106, and Mathematics 141-142, or equivalents. Alternates with 213-214. Assistant Professor Blake.

213-214. Conduction of Electricity Through Gases and

* Not given in 1912-1913.

Radioactivity. Two credit hours. The year. Prerequisite, same as for 211-212. Associate Professor Earhart and Assistant Professor Blake.

POLITICAL ECONOMY

(See Economics and Sociology)

POLITICAL SCIENCE

(Office, Room 200, University Hall)

PROFESSOR SPENCER, ASSISTANT PROFESSOR COKER

For Undergraduates

101-102. Constitutional Government. Three credit hours. The year. M., W., F., at 8; Tu., Th., Sat., at 10. Professor Spencer, Assistant Professor Coker.

This course is not open to Freshmen. It affords a general introduction to the field of political science, and should precede all other courses offered by the department, except course 113-114. American government is studied in the first semester, European governments in the second. It is strongly recommended that this course be preceded by a year's work in European or American history.

102b. Constitutional Government. Three credit hours. Second semester. M., W., F., at 2. A repetition of course 101.

111-112. Introduction to Jurisprudence. Two credit hours. The year. Tu., Th., at 9. Prerequisite, Political Science 101 102, except by special permission of the instructor. Professor Spencer.

A preliminary study of legal concepts. Holland's Jurisprudence will be used as a text-book, supplemented by readings in the works of Blackstone and Maine, and in American cases.

***113-114. Problems in International Politics.** One credit hour. The year. Given biennially. Professor Spencer.

An investigation of selected problems and topics in current international politics. A considerable amount of reading in the English and American reviews will be assigned.

* Not given in 1912-1913.

For Advanced Undergraduates and Graduates

103-104. International Law. Two credit hours. The year. Tu., Th., at 10. Prerequisite, Political Science 101-102. Professor Knight.

A study of the principles of international law in their growth and present status, together with an examination of some of the unsettled questions in the field. Lawrence's Principles of International Law to be used as a text-book, with frequent citations of authorities to be read, and with some leading cases to be thoroughly examined.

119-120. Comparative Constitutional Law. Two credit hours. The year. M., F., at 10. Prerequisite, Political Science 101-102. Assistant Professor Coker.

A comparative study of the constituent, legislative and electoral organs of government, with a view to their historical evolution and to their structure and operation.

***106 Municipal Government and Problems.** Three credit hours. Second semester. Given biennially. Prerequisite, Political Science 101-102. Professor Spencer.

***107. Party Government.** Three credit hours. First semester. Given biennially, alternating with course 109. Prerequisite, Political Science 101-102. Professor Spencer.

108. Colonial Government and Administration. Three credit hours. First semester. Given biennially. M., W., F., at 3. Prerequisite, Political Science 101-102. Assistant Professor Coker.

A comparative study of colonial political institutions and administrative problems, with special attention to the colonies and dependencies of the United States.

109. The Government of Ohio. Three credit hours. First semester. Given biennially, alternating with course 107. M., W., F., at 2. Prerequisite, Political Science 101-102. Professor Spencer.

The evolution of the present constitution of this state, and of its governmental institutions, legislative, executive, and judicial.

110. Comparative Administration. Three credit hours.

* Not given in 1912-1913.

Second semester. Given biennially. M., W., F., at 3. Prerequisite, Political Science 101-102. Assistant Professor Coker.

This course will include (1) a study of the principles of administration, the methods for organizing the agencies for execution of the will of the state, and the relation of the officer to government and the community; (2) a description of the administrative systems of Ohio, the United States, England, France, and Prussia.

115-116. **History of Political Theories.** Two credit hours. The year. Tu., Th., at 8. Prerequisite, Political Science 101-102. Assistant Professor Coker.

A study of the progress of political thought from the Greeks to the nineteenth century, in its relation to historical forces. Dunning's *History of Political Theories* will serve as a basis for the course; readings will be assigned in the works of the more important political philosophers.

117-118. **Pro-Seminar in Political Science.** Tu., at 3-5. Prerequisite, Political Science 101-102 and two other semester courses in the Social Sciences group. Professor Spencer, Assistant Professor Coker.

Students will pursue independent investigations, meeting once a week for conference and criticism. Before registering for this course the consent of a member of the department must be obtained. The topics for consideration in 1912-1913 will be, in the first semester, Short Ballot and Commission Government; in the second semester, Political Ideas of the Present English Parties.

PSYCHOLOGY

(Office, Room 404, University Hall)

PROFESSOR MAJOR, PROFESSOR HAINES, ASSISTANT PROFESSOR —

101-102. **General Psychology.** Introductory Course. Three credit hours. The year. M., W., F., at 11, 1, or 2; Tu., Th., Sat., at 10 or 11. Professor Major, Assistant Professor —.

103. Repetition of 102. First semester. M., W., F., at 2. Assistant Professor —.

104. Repetition of 101. Second semester. M., W., F., at 1. Professor Major.

111-112. **Experimental Psychology.** Three credit hours.

The year. Lecture and laboratory. Tu., 1 to 4; Th., 2 to 4. Prerequisite, Psychology 101-102. Assistant Professor —.

A systematic training course in the method of introspection, which brings one to a first-hand acquaintance with the facts of the mental life. Topics: The sense fields, geometrical optical illusions, stereoscopic and pseudoscopic illusions, tactual space perception, auditory localization, attention, reaction-time, memory types, tonal fusion, association, and analysis of judgment.

***115-116. Mental Development.** Two credit hours. The year. Professor Major.

This course is designed (1) to describe the characteristic features of the child mind (2) to study the principles and empirical data of the development of the individual human mind.

***121. Abnormal Psychology.** Three credit hours. First semester. Prerequisite, Psychology 101-102. Professor Haines.

Studies of the main types of insanity, both for the knowledge of the constitution of the abnormal mind, and for the knowledge gained by contrast, of the normal mind. Clinics, lectures, and recitations.

***119. Animal Psychology.** Three credit hours. First semester. Prerequisite, Psychology 101-102. Professor Haines.

A systematic following-out of the steps in the evolution of mental processes through the animal series from the protozoa to the apes, with a special look-out for the method of organization, studies in the development of the senses, association, memory, perception, attention, suggestion, accommodation, imitation, learning-capacity, and practical judgment.

***122. The Defective Child.** Three credit hours. Second semester. Professor Haines.

A study of the varieties and grades of mental deficiency, including the backward child of the schools and the distinctly feeble-minded. The causes and treatment of the same. Lectures, recitations and clinics.

***125. Social Psychology.** Three credit hours. First semester. M., W., F., at 4. Prerequisite, Psychology 101-102.

The social factor in the development of personality, and the

* Not given in 1912-1913.

mental process involved in social development, including such topics as suggestion, imitation, invention, sympathy, modesty, the socially unfit, and the genius.

***126. Folk Psychology.** Three credit hours. Second semester. M., W., F., at 3. Prerequisite, Psychology 101-102

The psychic factors involved in group activities, such as the play of children, art (especially of savages and barbarians), mob phenomena, family life, and ethnic groups.

***129-130. Advanced Psychology.** Two credit hours. The year. Tu., Th., at 3. Prerequisite, Psychology 101-102.

This course includes a discussion of the methods of Psychology, and a detailed consideration of the main psychological concepts—feeling, conation, perception, imagination, etc., both in themselves and in their relation to one another.

133-134. Individual Psychology. Two credit hours. The year. Tu., Th., at 1 to 3, or 2 to 4. Professor Major.

A study of individual variations in mental capacity and development.

137-138. General Psychology. Advanced course. Three credit hours. The year. M., W., F., at 3. Professor Major.

This course is open to students who have completed Psychology 101-102, or the equivalent, and who wish to make a more intensive study than is practical in an introductory course of certain topics selected from the field of general psychology.

For Advanced Undergraduates and Graduates

141-142. Research in Experimental Psychology. Two credit hours or more. The year. Assistant Professor —.

The investigation of problems in any field of Psychology by the aid of the experimental method. The student selects a problem in consultation with the instructor, who carefully considers the student's interests. Members of the laboratory assist each other as observers.

145-146. Seminar in Psychology. Two to five credit hours. The year. Professor Major, Assistant Professor —.

* Not given in 1912-1913.

For Graduates

201-202. Graduate Courses in Psychology. Three to ten credit hours. The year. Professor Major, Assistant Professor —.

These courses are to meet the needs of individual graduate students who are pursuing a major or minor study in the department of Psychology.

RHETORIC AND ENGLISH LANGUAGE

(See English)

ROMANCE LANGUAGES AND LITERATURES

(Office, University Hall, Room 305)

PROFESSOR BOWEN, PROFESSOR BRUCE, ASSOCIATE PROFESSOR INGRAHAM,
ASSISTANT PROFESSOR HAMILTON, MR. CHAPIN, MR.
ROCKWOOD, MR. BOND

Courses 101, 102, 103, and 104 in French must precede all others (except Course 106). Courses 117 to 120, inclusive, in French must be preceded by Courses 107, 109, and 110, or an equivalent.

I. French

For Undergraduates

101-102. Elementary French. Four credit hours. The year. Grammar: Fraser and Squair's, or equivalent. Reader: Aldrich and Foster's, or Bowen's First Scientific. Historical and narrative prose; one or more prose comedies. Ten sections. M., W., F., Sat., at 9; M., Tu., Th., Sat., at 11; Tu., W., Th., F., at 8 and 3; M., Tu., Th., F., at 10, 11, 1, or 2. All instructors.

Stress is laid first upon the acquisition of a correct pronunciation, after which the entire energy of the student is directed toward the attainment of a full and accurate reading knowledge of the language. Grammar and composition are made to contribute to this end. Sight reading emphasized.

103-104. Modern French Literature. Four credit hours. The year. Four sections. Prerequisite, Courses 101-102, or equivalent. M., Tu., Th., F., at 9, 10, 11, or 2. Professor Bowen, Assistant Professor Hamilton, Mr. Rockwood, Mr. Bond.

The work of the year deals with the following subjects: (1) Contes; (2) The novel (Balzac or Hugo); (3) Lyric poetry; (4)

Romantic drama (Hugo). Prose composition with practise in speaking. Systematic attention given to syntax and idiom. Lectures supplement the work. Private reading required.

106. Science Reading. Four credit hours. Second semester. Prerequisite, Course 103. M., Tu., Th., F., at 10. Assistant Professor **Hamilton**.

A course of rapid reading introductory to the vocabulary of scientific literature.

For Advanced Undergraduates and Graduates

107. Advanced Prose Composition. Two credit hours. First semester. Tu., Th., at 8 and 10. Professor **Bowen**, Associate Professor **Ingraham**.

Cameron's French Composition, followed by other selections. Dictation. Conversation. The course is conducted mainly in French.

108. History of French Literature. Two credit hours. Second semester. Lectures and illustrative readings. Tu., Th., at 8. Associate Professor **Ingraham**.

109. Seventeenth Century Drama: Molière and Corneille. Three credit hours. First semester. Given biennially, alternating with Course 111. M., W., F., at 8 and 2. Professor **Bowen**, Associate Professor **Ingraham**.

Lectures on the growth of French comedy and tragedy. Critical study of representative plays of Molière, Regnard, and Corneille. Collateral reading. Assigned topics and reports.

110. Seventeenth Century Tragedy and Prose. Three credit hours. Second semester. Given biennially, alternating with Course 112. M., W., F., at 8 and 2. Professor **Bowen**, Associate Professor **Ingraham**.

Representative dramas of Racine; study of Descartes, Pascal, La Bruyère and others. Warren's Selections. Lectures, with collateral reading and reports.

***111. Eighteenth Century Drama.** Three credit hours. First semester. Given biennially, alternating with Course 109. Professor **Bowen**, Associate Professor **Ingraham**.

Lectures on the growth of French comedy, with work centering on Marivaux and Beaumarchais. Study of the drama of Voltaire. Collateral reading and reports.

* Not given in 1912-1913.

*112. **French Society in the Seventeenth Century.** Three credit hours. Second semester. Given biennially, alternating with Course 110. Professor **Bowen**, Associate Professor **Ingraham**.

Writers who portray the social life of the seventeenth century in France. Special reference to the *Precièux* movement. Crane's Selections, and others. Lectures, with collateral reading and reports.

*113. **Recent French Prose.** Two credit hours. First semester. Given biennially, alternating with Course 115. Professor **Bruce**.

Rapid reading, with lectures. Selections from the works of such writers as Bazin, Daudet, Loti, and Zola.

*114. **Practise in Speaking and Writing French.** Two credit hours. Second semester. Students wishing to elect this course must have the consent of the instructor in charge. Given biennially, alternating with Course 116. Professor **Bruce**.

*115. **Eighteenth Century Prose.** Two credit hours. First semester. Given biennially, alternating with Course 113. Professor **Bruce**.

Selections from Voltaire (ed. Cohn and Woodward), Rousseau, and others.

*116. **Advanced Conversational Practise.** Two credit hours. Second semester. Students wishing to elect this course must have the consent of the instructor in charge. Given biennially, alternating with course 114. Professor **Bruce**.

117-118. **French Seminar A.** Two credit hours. The year. Given biennially, alternating with Courses 119-120. M., 3-5. Professor **Bowen**.

Studies in specific literary fields. The subject for 1912-1913 will probably be: Recent and present phases of French drama.

*119-120. **French Seminar B.** Two credit hours. The year. Given biennially, alternating with Courses 117-118. Professor **Bowen**.

Studies in Old French (with emphasis of *la Chanson de Roland*) and in the language and writers of the sixteenth century. Special consideration of Montaigne.

* Not given in 1912-1913.

II. Italian

For Undergraduates

***101-102. Elementary Italian.** Two credit hours. The year. Grammar (Grandgent's or Young's) and Reader (Bowen's). Modern prose. Comedies of Goldoni. Students are advised to postpone the election of this course until they have completed French 101-102, or an equivalent. Professor **Bruce**.

For Advanced Undergraduates and Graduates

***103. The Italian Novel.** Two credit hours. First semester. Manzoni (*I Promessi Sposi*). Lectures. Prerequisite, Italian 101-102. Professor **Bruce**.

***104. Dante.** Two credit hours. Second semester. Selections from *The Inferno* and *Paradiso*. Lectures. Prerequisite, Italian 103. Professor **Bruce**.

III. Spanish

For Undergraduates

101-102. Elementary Spanish. Four credit hours. The year. Grammar (Hills and Ford's), and Ingraham's *Victoria y Otros Cuentos*. Easy prose and plays. Composition and practise in speaking. Four sections. M., Tu., Th., F., at 9, 11, or 2; Tu., W., Th., F., at 8. Associate Professor Ingraham, Assistant Professor Hamilton, Mr. Chapin.

For Advanced Undergraduates and Graduates

103-104. Modern Spanish Literature. Four credit hours. The year. Prerequisite, Spanish 101-102, or equivalent. M., Tu., Th., F., at 10. Associate Professor Ingraham.

The modern novel and drama. Lectures covering a survey of the literature. Composition and practise in speaking continued.

105. Cervantes: Don Quixote. Two credit hours. First semester. Prerequisite, Spanish 103-104. Tu., Th., at 11. Associate Professor Ingraham.

106. Lope de Vega and Calderon. Two credit hours. Second semester. Prerequisite, Spanish 105. Tu., Th., at 11. Associate Professor Ingraham.

* Not given in 1912-1913.

Exclusively for Graduates

201-202. Introduction to Romance Philology. Two credit hours. The year. Professor **Bowen**.

Origin and distribution of the Romance Languages and dialects. Comparative phonology and morphology of French, Italian, and Spanish. Peculiarities of syntax. Lectures and reading of illustrative texts.

203-204. Old Provençal. One credit hour. The year. Professor **Bowen**.

Study of the language and literature of the Troubadours. Appel's Provenzalische Chrestomathie (Leipzig, 3rd edition); Grandgent's Provençal Phonology and Morphology.

***205-206. History of the Literary Movement in France in the First Half of the Nineteenth Century.** Two credit hours. The year. Professor **Bruce**.

The attention of all students in Romance Languages is called to Courses 111 and 112 in Latin, given by Professor Elden, on the subject of Roman and Comparative Literature. This course is strongly recommended.

SOCIOLOGY

(See Economics and Sociology)

SPANISH

(See Romance Languages)

ZOOLOGY AND ENTOMOLOGY

(Office, Room 1, Biological Hall)

PROFESSOR OSBORN, PROFESSOR LANDACRE, ASSOCIATE PROFESSOR HINE,
ASSISTANT PROFESSOR BARROWS, MR. METCALF, MR. WITTEN-
MYER, MISS MCCLELLAND, AND MR. FULTON

101-102. Elementary Zoology. Three credit hours. The year. Laboratory and lectures. L. M., F., at 10 or 1; Tu., Th., at 8 or 9. Lab. M., 1-3; Tu., 10-12, or 1-3; W., 1-3; Th., 10-12, or 1-3; F., 1-3; W., 8-10; S., 10-12. Professor **Osborn**, Professor **Landacre**, Assistant Professor **Barrows**.

An introductory general course intended to give an acquaintance with animal life and the principles of biology and as a foundation for more advanced courses.

* Not given in 1912-1913.

103. Comparative Anatomy of the Vertebrates: Vertebrates to Birds. Three to five credit hours. First semester. L. W., at 1. Lab. W., Th., F., 1-4. Prerequisite, Course 101-102, or equivalent. Professor Landacre.

104. Comparative Anatomy of Vertebrates: Birds and Mammalia. Three to five credit hours. Second semester. L. W., at 1. Lab. W., Th., F., 1-4. Prerequisite, Course 103. Professor Landacre.

107-108. Economic Entomology. Three credit hours. The year. L. Tu., Th., at 10. Lab. Tu., or Th., 8-10; S., 8-10; S., 10-12. A general course in Entomology with special reference to economic species. Prerequisite, Zoology 101-102.

119. Gross Anatomy of the Frog. Three to five credit hours. First semester. Professor Landacre.

120. Embryology of the Frog. Three to five credit hours. Second semester. Prerequisite, Course 101-102 or 119. Time to be arranged. Professor Landacre.

121-122. Invertebrate Morphology. Three to five credit hours. The year. L. W., at 11; Lab. Tu., Th., F., 1-3. Prerequisite, Course 101-102. Professor Osborn.

125. Vertebrate Embryology, Karyokinesis, and the Early Development of Amphioxys, Fishes, and Amphibians. Three to five credit hours. First semester. L. Th., at 1. Lab. Th., F., 1-4. Prerequisite, Course 101-102. Professor Landacre.

126. Vertebrate Embryology: Birds and Mammals. Three to five credit hours. Second semester. L. Th., at 1. Lab. Th., F., 1-4. Prerequisite, Course 101-102. Professor Landacre.

129-130. Quantitative Studies in Variation, Heredity and Animal Behavior. Two and four credit hours. The year. Tu., Th., at 10. Prerequisite, Course 101-102, or equivalent. Assistant Professor Barrows.

139. Ornithology. Two credit hours. First semester. Lecture M., at 10. Laboratory to be arranged. The first semester is devoted to the anatomy of the birds and to the study of museum specimens. Associate Professor Hine.

140. Ornithology. Two credit hours. Second semester. Lecture M., at 10. Laboratory to be arranged. This semester is devoted to systematic and field work. Associate Professor Hine.

131-132. Evolution. Three credit hours. The year. M., W., F., at 8. Prerequisite, one year of Zoology or an equivalent. Professor Osborn, Professor Landacre.

A discussion of the facts and theories of the origin, development, and distribution of animal life. The first semester deals chiefly with variation, heredity, isolation, adaptations, and geographical distribution as the fundamental facts in Evolution of Animal forms. The second semester is devoted to a study of the factors concerned in variations, heredity and ontogeny, and the application of the lines of heredity to practical problems.

For Advanced Undergraduates and Graduates

133. Comparative Neurology. Three to five credit hours. First semester. L. Tu., at 1. Lab. to be arranged. The origin and structure of the nervous system of the lower vertebrates. Professor Landacre.

134. Comparative Neurology. Three to five credit hours. Second semester. L. Tu., at 1. Lab. to be arranged. The origin and structure of the nervous system of the higher vertebrates. Professor Landacre.

135-136. Cytology. Three to five credit hours. The year. Prerequisite, Course 101-102, 103, 104, or 121-122.

137-138. Advanced Entomology. Three to five credit hours. L. M., W., at 3. Lab. M., W., F., 1-3. Prerequisite, Course 101-102, and 107-108. Professor Osborn.

141-142. Research Work. Subject to be assigned. Five to ten credit hours. The year. Prerequisite, Course 101-102, and the equivalent of 103-104, or 121-122, or 125-126. Professor Osborn, Professor Landacre.

143-144. Seminar. One credit hour. The year. L. Tu., at 4. Professor Osborn, Professor Landacre.

For Graduates

223-224. Invertebrate Embryology. Three to five credit hours. The year. Time to be arranged. For graduates only. Prerequisite, Course 101-102, 103, 104, or equivalent. Professor Osborn.

247-248. Invertebrate Zoology. The year. Five credit hours. Time to be arranged. Professor Osborn.

249-250. Vertebrate Embryology. Three to five credit hours. The year. Subject to be assigned. Time to be arranged. Professor Landacre.

ANNOUNCEMENTS OF OTHER DEPARTMENTS OF THE UNIVERSITY

The faculty of the College of Arts, Philosophy and Science will accredit towards the degree of Bachelor of Arts a limited amount of work in the courses announced below. The student desiring to elect one or more of these courses is required to file a petition with his election card in June, showing the special purpose which he has in view, and bearing the written approval of the professor in charge of the course desired. The Executive Committee will not count towards the degree in Arts any course named below that is not allied to the work of the student in the College of Arts, Philosophy and Science. But a student with no conditions outstanding who has at least thirty hours to his credit may, without petition, elect any course in the University for which he is prepared to enter, as extra work, not counting towards the degree of Bachelor of Arts.

AGRICULTURAL CHEMISTRY

(Townshend Hall)

PROFESSOR WEBER, ASSOCIATE PROFESSOR LYMAN

121-122. Food Inspection and Analysis. Three to five credit hours. The year. L. Th., at 4. Lab. to be arranged. Prerequisite, Course 103-104, or an equivalent preparation in quantitative analysis. Professor **Weber**, Associate Professor **Lyman**.

ARCHITECTURE

(Office, Brown Hall)

PROFESSOR BRADFORD, ASSOCIATE PROFESSOR CHUBB, MR. HASKETT

111 or 112. Photography. Two credit hours. First semester, M., Tu., 1-4; W., Th., 1-4, or F., 1-4, and S., 8-11. Second semester, W., Th., 1-4, or F., 1-4, and S., 8-11. Prerequisite, Elementary Chemistry. Mr. **Haskett**.

122. Photography. Two credit hours. Second semester. Prerequisite, Architecture 111 or 112. Mr. **Haskett**.

ART

(Office, Hayes Hall)

PROFESSOR LAVER, MISS FINNEY, MISS ROBINSON

101-102. Design and Composition. Two credit hours. The year. M., W., or F., 8 to 10; M., Tu., or Th., 1 to 3. Professor Laver, Miss Robinson.

This course is designed to develop appreciation of harmony of line, space and color. It brings into play the creative imagination and establishes a basis for critical judgment along all Art lines. Nature motives used. Study of color, theory and harmony. Medium: pencil, ink, charcoal and water color.

103-104. Still Life Composition. Two or more credit hours. The year. L. Th., at 8, and Lab. M., 9 to 12, or W., 1 to 4. Lecture and studio work. Professor Laver, Miss Finney, Miss Robinson.

This course offers training in form and the study of neutral values and light and shade as related to color. Medium: charcoal.

105-106. Design and Composition. Two credit hours. The year. W., 1 to 3, or Tu., 10-12. Prerequisite, Art 102. Miss Finney.

Continuation of Art 102 with advance problems in color and line as applied to decoration. Three credit hours.

107-108. Still Life Composition in Color Values. Two or more credit hours. The year. L. Tu., at 8, and Lab. M., Tu., or W., 1 to 3. Prerequisite, Art 104. Lecture and studio work. Professor Laver, Miss Finney, Miss Robinson.

Cast drawing. Medium: charcoal. Outdoor sketching and study from life.

111-112. Study from Head and Costume Model. One or more credit hours. The year. L. W., at 9. Lab. Tu., Th., 9 to 12. Prerequisite, Art 107-108. Lectures and studio work. Professor Laver.

Medium: selected. Outdoor sketching in color.

119-120. Art Appreciation. One credit hour. The year. M., at 4. Required of students taking Art 113, 114, 115, 116, 117, 118. Miss Robinson.

CIVIL ENGINEERING

(Office, Room 33, Brown Hall)

ASSISTANT PROFESSOR CHAMBERLIN, MR. WAID, MR. WARD

(Of the courses offered in the Department of Civil Engineering, the following are open to students of the College of Arts, Philosophy and Science:)

121. Surveying and Drafting. Six credit hours. First semester. M., W., F., at 11; Th., F., 1-4, and S., 8-11. Prerequisite, Engineering Drawing 101-102, Mathematics 121-122, or equivalent. Mr. Waid.

128. Surveying. Two credit hours. Second semester. Tu., Th., at 8, or W., F., at 11. Prerequisite, Mathematics 121-122, or equivalent. Assistant Professor Chamberlain, Mr. Waid.

DOMESTIC SCIENCE

(Hayes Hall)

PROFESSOR WARDALL, ASSOCIATE PROFESSOR WHITE, MISS BLOHM,
MISS HATHAWAY**I. Domestic Science**

101-102. Foods. Four credit hours. The year. L. M., F., 1, or Tu., Th., 1. Lab. M., F., 2-4; Tu., Th., 8-10, or Tu., Th., 2-4. Prerequisite, Chemistry 106 or 110. Associate Professor White.

A study of nutritive principles; their occurrence in ordinary foodstuffs, their cost from various sources and the principles involved in their preparation. Lecture and recitation are combined with laboratory work.

II. Domestic Art

101-102. Textiles. Two credit hours. The year. L. W., at 11 or Th., at 8. Lab. Tu., 1 to 3; W., 1 to 3; Th., 1 to 3; W., 8 to 10; F., 8 to 10; S., 8 to 10. Recitation and laboratory. Prerequisite, or concurrent, Art 101-102.

This course includes the study of fibers and fabrics from an historic, economic, and social standpoint. In the laboratory the making of articles involves the proper selection of material and the working out of suitable designs. Miss Blohm.

ENGINEERING DRAWING

(Office, Brown Hall)

PROFESSOR FRENCH, ASSISTANT PROFESSOR MEIKLEJOHN, MR. WILLIAMS,
MR. HARPER, MR. SHEETS, MR. IVES, MR. TURNBULL, MR. NORRIS

(Of the courses offered in the Department of Engineering Drawing, the following are open to students in the College of Arts, Philosophy and Science:)

101. Elementary Mechanical Drawing. Two credit hours. First semester. M., F., 8 to 10; Tu., Th., 8 to 10; M., Tu., 1 to 3; Th., F., 1 to 3; or W., S., 8 to 10.

Fractise in the use of drawing instruments, elementary projections.

102. Mechanical Drawing. Three credit hours. Second semester. L. to be arranged. Lab. M., F., 8 to 10; Tu., Th., 8 to 10; M., Tu., 1 to 3; Th., F., 1 to 3; or W., S., 8 to 10. One lecture, two drawing periods weekly. Prerequisite, Drawing 101.

Lettering, orthographic, isometric, and oblique projections.

105. Descriptive Geometry. Three credit hours. First semester. L. Tu., F., or M., Th., at 10. Lab. Tu., 10 to 12, or F., 1 to 3. Prerequisite, Drawing 102.

Two lectures, one drawing period weekly.

106. Advanced Descriptive Geometry. Three credit hours. Second semester. L. Tu., Th., at 10. Lab. M., 10 to 12, or Th., 9 to 11. Prerequisite, Drawing 105.

Two lectures, one drawing period weekly.

127. Mechanical Drawing. One and one-half credit hours. First semester. W., 1 to 4.

Elementary mechanical and architectural Drawing.

128. House Planning. One and one-half credit hours. Second semester. W., 1 to 4. Prerequisite, Drawing 127.

Domestic Science, second year.

135-136. Technical Delineation. Two credit hours. The year. M., F., 10 to 12.

Courses 135-136 are designed for students in biological work and provide training in rendering in pencil, pen and ink, and brush.

ELECTRICAL ENGINEERING

(Office, Robinson Laboratory)

PROFESSOR CALDWELL, PROFESSOR HUNT, MR. HEITMANN,
MR. SHEPARDSON

101. Electrical Engineering. Five credit hours. First semester. Prerequisite, Mathematics 142 and Physics 103-104 or 105-106. Mr. Shepardson.

104. Direct Current Dynamo Machinery. Five credit hours. Second semester. Prerequisite, Mathematics 129, Physics 103-104, 105-106, and four credit hours of electrical measurements. Professor Hunt.

108. Alternating Current Circuits and Machinery. One and one-half credit hours. Second semester. Prerequisite, concurrent, Course 104. Professor Caldwell.

This course runs through the first half of the second semester.

109. Continuation of 108. Three credit hours. First semester. Prerequisite, Course 108.

111-112. Advanced Dynamo Laboratory. Three credit hours. The year. Must be accompanied by Course 109. Professor Caldwell, Mr. Heitmann.

HISTORY AND PHILOSOPHY OF EDUCATION

(Office, Second Floor, Old Mechanical Building)

PROFESSOR F. P. GRAVES

101-102. History of Education. Three credit hours. The year. M., W., F., at 11. Text: Graves's A History of Education, and Graves's Great Educators of Three Centuries. Prerequisite, Psychology 101-102.

For Graduates and Undergraduates

103-104. Philosophy of Education. Two credit hours. The year. M., W., at 3. Prerequisite, Courses 101-102, Psychology 101-102, and Philosophy 151-152.

105-106. Educational Classics. Two credit hours. The year. Tu., Th., at 3. Prerequisite, Courses 101-102, and Psychology 101-102.

Readings in Plato, Aristotle, Quintilian, Montaigne, Locke, Rousseau, Pestalozzi, Herbart, Froebel and Spencer. Reports and conferences.

For Graduates

107-108. History of European School Systems. Two credit hours. The year. W., F., at 4. Prerequisite, Courses 101-102. European History 101-102.

Historical study of the school systems in Germany, France, and England. Assigned readings and reports.

121-122. Seminar in the History of Education. One credit hour. The year. M., at 4. Prerequisite, Courses 107-108.

Study of a special period and critical investigation of assigned topics.

MECHANICAL ENGINEERING

(Office, Room 244, Robinson Laboratory)

PROFESSOR MAGRUDER

129. Thermodynamics. Two credit hours. First semester. Tu., Th., at 10. Open only by permission of instructor. Professor Magruder.

METALLURGY AND MINERALOGY

(Office, School of Mines Building)

PROFESSOR SOMERMEIER, ASSISTANT PROFESSORS DEMOREST AND
MCCAUGHEY

104. Mineralogy. Three credit hours. Second semester. M., Tu., Th., at 8; M., W., F., at 9. Prerequisites, Mathematics 121-122, or equivalent, and Chemistry 106 or 110. Assistant Professor McCaughey.

106. Metallurgical Laboratory. Four credit hours. Second semester. M., Tu., W., 1-4, or W., Th., F., 1-4. Prerequisite, Physics 103-104, and two years of Chemistry. Assistant Professor Demorest.

108. Determinative Mineralogy. Three credit hours. Second semester. M., Tu., 1-4, or Th., F., 1-4. Prerequisite, Course 104. Assistant Professor McCaughey.

117. Advanced Crystallography and Physical Mineralogy. Three credit hours. First semester. Prerequisites, Chemistry and Physics. Assistant Professor McCaughey.

118. Microscopic Mineralogy. Three credit hours. Second semester. Prerequisite, Course 104. Assistant Professor McCaughey.

GENERAL INFORMATION

THE BRYAN PRIZE

Through the generosity of Hon. William J. Bryan an annual prize of twenty-five dollars is offered for the best essay on the principles underlying the form of government of the United States. Competition for this prize is open to all students of the University. For further information, make inquiry of the head of the department of American History.

THE APPOINTMENT COMMITTEE

In order to serve the schools of the State, the University Faculty has provided a committee, one of the duties of which is to assist graduates of the University to teaching positions for which they are best fitted. Any student of the University intending to teach is invited to enroll his name with the committee on a blank provided for that purpose by the committee. Graduates of the University who are already engaged in teaching are also cordially invited to correspond with the Appointment Committee with a view to bettering their positions. Correspondence is invited from Boards of Education and from Superintendents and Principals of Schools in need of teachers. No fee is charged for the services of the committee.

FEES

All fees must be paid at the opening of each semester as a condition of admission to classes.

Tuition—Tuition is free in this College, but registration is not complete until certain incidental and laboratory fees are paid. Also resident students who elect five hours or less in the College of Law pay a fee of \$7.50 per semester, non-residents \$10.00; more than five hours, for resident students \$22.50, non-resident \$25.00 per semester.

Incidental Fee—The fee for students who are residents of Ohio is \$10.00 a semester. For non-residents, the fee is \$15.00 a semester. Children of non-resident Alumni pay the same fee as residents of Ohio.

Former students, who do not pay this fee until the third day

of the first semester and the second day of the second semester, must pay one dollar additional. For each day of delinquency thereafter fifty cents is added.

Laboratory Fees—A fee of two dollars a semester is charged for all laboratory courses using gas, water, electrical current or steam. For all other courses which are not purely lecture courses, a laboratory fee of one dollar is charged. Students are required to pay for all materials consumed in laboratory work. To meet the cost of these materials a deposit of \$5.00 for each course requiring such supplies is made at the Bursar's office before the work is begun. In Chemistry and Bacteriology the deposit is \$10.00. All laboratory supplies are sold at the General Store Room, Chemistry Hall, to students at first cost to the University, and charged against the deposits. Any unused part of the deposit is refunded at the end of the semester.

OTHER EXPENSES

Locker Fee—The gymnasium is free to all students, but those desiring to use a locker are charged a fee of two dollars a semester, which includes the cost of towels.

Cadet Uniform—The uniform with which the members of the regiment are required to provide themselves costs (without overcoat) about thirteen dollars.

It is quiet in pattern, and may be worn in place of civilian dress.

New students are advised against buying second-hand uniforms.

The Ohio Union—A fee of one dollar a semester is paid by all male students at registration. This entitles the students to all the privileges of the Union, consistent with the Constitution and House Rules governing it.

Auditor's Fee—On presentation to the Bursar of the written consent of the head of a department, and on the payment to the Bursar of an auditor's fee of one dollar, any person engaged in teaching is permitted to attend, in that department, any class or course (not to exceed three hours a week for one-half year) which is announced to be especially for teachers or those intending to teach.

Graduation Fee—A fee of five dollars, to cover expense of graduation and diploma, is required of each person receiving

one of the ordinary degrees from the University, and this fee must be paid before the degree is conferred. A like fee of ten dollars is charged each person receiving one of the higher graduate degrees.

Rooms and Board—Furnished rooms, accommodating two students, can be rented at one dollar to one dollar and a half per week for each student. Board at the restaurants and boarding clubs near the University costs from two dollars and seventy-five cents to three dollars and fifty cents per week. The Ohio Union Commons offers board to men at reasonable rates. Board with furnished rooms, can be obtained in private families at rates varying from five to six dollars per week.

Text-books—Students should not purchase text-books until they are advised by the instructors of their respective classes.

In order to meet all the necessary expenses of registration, books, uniform and other expenditures incident to securing a room and board, a student should come prepared to expend about fifty dollars during the first ten days of a semester. After that period his board and room rent will constitute the major part of his expenses.

Women Students

As far as possible women students should make arrangements for room and board in advance. An effort will be made to secure suitable accommodations in private residences for such as cannot be accommodated in Oxley Hall. Prospective women students should address the House Superintendent, Oxley Hall, Columbus, Ohio.

Self Support

There is a large amount of work on the University farm and campus and in the gardens, orchards, and greenhouses, which can be done by students, for which they are paid at current rates for such labor. By this means, together with what can be earned by steady labor during the summer vacation, a considerable number of students defray all their expenses.

Preference is given to students who are willing to devote a certain number of hours each day to the work assigned.

Work cannot be promised to all applicants, and is not guaranteed to any.

Applications for employment should be made to the Superintendent of the University farm, or at the Executive office.

Fellowships

To encourage graduates of this University, and of other approved institutions of learning, to continue their studies and to undertake advanced work leading to the higher degrees, the University has established fellowships in several departments. These demand about one-half of the time of the fellow for laboratory or other assistance—as far as possible along the line of his graduate study. The remainder of his time is given to graduate work. The fellowships pay from \$150 to \$300 for the University year.

Christian Associations

The Young Men's Christian Association has come to occupy a prominent place in university life. It has a membership of about five hundred men, and is affiliated with the World's Student Christian Federation.

Religious meetings are held for men on Sunday afternoon; there are also frequent meetings for the promotion of social intercourse and good fellowship. Courses in systematic Bible study and in modern missions are offered. A most helpful feature of the work is that in the interest of new students at the opening of the school year. Desirable rooms and boarding places are found and posted for reference at the Association Office. Representatives of the Association meet the trains, assist students in finding satisfactory locations, and endeavor in every way to make them feel at home. The Employment Bureau helps to find work.

A copy of the Students' Handbook, giving information about Columbus, the University, and the various college organizations and activities, will be sent free to prospective students. For this handbook or for further information, address the General Secretary of the O. S. U. Y. M. C. A., University Campus, Columbus, Ohio.

The Young Women's Christian Association holds religious meetings regularly at noon on Tuesdays. This organization is active and efficient in working for the highest interests of the young women.

The Ohio State University Bulletin is issued at least twenty times during the year; monthly in July, August, September and June, and bi-weekly in October, November, December, January, February, March, April, and May.

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE

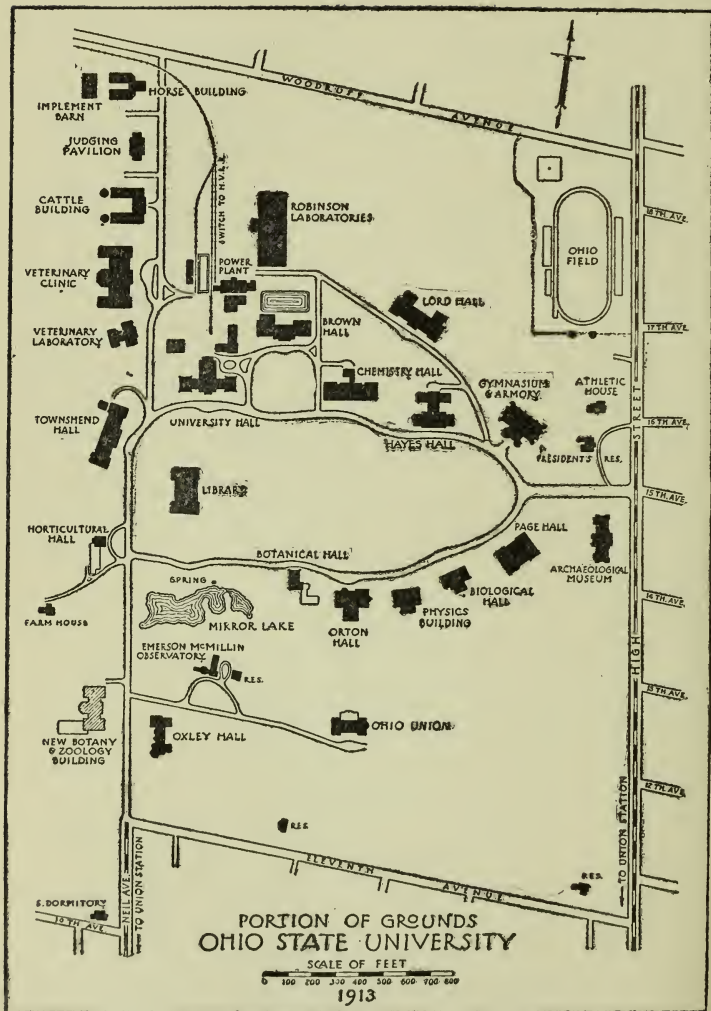
1913-14



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THE OHIO STATE UNIVERSITY

The Ohio State University, located in Columbus, is a part of the public educational facilities maintained by the State. It comprises seven colleges and a graduate school:

The College of Agriculture,
The College of Arts, Philosophy, and Science,
The College of Education,
The College of Engineering,
The College of Law,
The College of Pharmacy,
The College of Veterinary Medicine,
The Graduate School.

This bulletin is devoted exclusively to the work of the College of Arts, Philosophy, and Science, offered during the academic year, beginning September, 1913:

[**Note:** The University publishes a bulletin describing the work of each of the Colleges. Copies may be obtained by addressing W. E. Mann, University Editor, Columbus, Ohio, and stating the college in which the writer is interested.]

UNIVERSITY CALENDAR

1913

Entrance examinations, Tuesday to Saturday, June 3 to 7, 8 a. m.

Summer Session, June 16 to August 8.

Entrance examinations, Tuesday to Saturday, September 9 to 13, 8 a. m.

First semester begins—Registration Day—Tuesday, September 16.

President's Annual Address, Friday, September 19, 11 a. m.

Latest date of admission to candidacy for a degree at the Commencement of June, 1914, Wednesday, October 1.

Mid-semester reports to the Deans concerning delinquent students, due Wednesday, November 19.

Thanksgiving recess begins November 26, 6 p. m., and ends December 2, 8 a. m.

Christmas recess begins Friday, December 19, 6 p. m.

1914

Christmas recess ends Tuesday, January 6, 8 a. m.

Winter Course in Agriculture and Dairying begins Monday, January 5.

Final examinations, first semester, Friday, January 30, to Thursday, February 5.

First semester ends Thursday, February 5, 6 p. m.

Second semester begins—Registration Day—Tuesday, February 10.

Washington's Birthday, Sunday, February 22.

Mid-semester reports to the Deans, due Saturday, March 28.

Easter recess, Saturday, April 4, 12 m., to Tuesday, April 14, 8 a. m.

Competitive Drill—Cadet Regiment—Saturday, May 23.

Memorial Day, Saturday, May 30.

Final examinations, Friday, June 5, to Thursday, June 11.

Entrance examinations, Tuesday, June 9, to Saturday, June 13, 8 a. m.

Commencement, Wednesday, June 17.

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE

This College comprises those courses of study that are designed to furnish a liberal education in the languages and literatures, the sciences, mathematics, philosophy, history, politics, economics, sociology, and preparation for commerce, law, medicine, philanthropic work, administration, journalism, and the higher positions in teaching.

DEPARTMENTS

The College of Arts, Philosophy, and Science includes work in the following departments: American History, Anatomy and Physiology, Astronomy, Bacteriology, Biblical Literature, Botany, Chemistry, Economics and Sociology, English, European History, Geology, German, Greek Language and Literature, Latin Language and Literature, Mathematics, Military Science and Tactics, Philosophy, Physical Education, Physics, Political Science, Psychology, Romance Languages and Literatures, Zoology and Entomology. Under certain restrictions specified below, a student may elect work in Architecture, Art, Civil Engineering, Domestic Science, Engineering Drawing, Electrical Engineering, History and Philosophy of Education, Mechanical Engineering, Mechanics, Metallurgy and Mineralogy.

GRADUATE COURSES

The graduate instruction offered in the College of Arts, Philosophy and Science is given in the Graduate School. A special bulletin describing the organization, admission requirements, and work of the Graduate School may be obtained on application to the University Editor.

SUMMER SESSION

The University conducts a summer session for eight weeks, in which most of the courses offered are credited by this College. As applicable to the graduate work, three summer sessions of full time work are required as the equivalent of a year's res-

idence, provided that the work undertaken in the summer session is continued between sessions and supervised by the departments concerned and a detailed statement of such (ad interim) work satisfactory to the committee on graduate work is filed with the committee. Otherwise, four summer sessions are regarded as equivalent to a year's residence.

No undergraduate will be admitted to candidacy for a degree at any Commencement who has not done the last year of work required for the degree in residence, two summer sessions being considered the equivalent of one semester, and four summer sessions the equivalent of the year, and no student will be registered in such candidacy later than the first day of October.

THE LAKE LABORATORY

The University maintains a Lake Laboratory at Sandusky during the summer vacation, which is designed to provide opportunity for the investigation of the biology of the lake region, and for giving certain courses of instruction in the departments of Botany and Zoology and Entomology. For further information write for a special bulletin, which may be obtained from the University Editor.

BUSINESS ADMINISTRATION AND SOCIAL SERVICE, AND JOURNALISM

Students desiring to prepare themselves to pursue a business career or to engage in philanthropic work or journalism are invited to send to the University Editor for special bulletins describing these courses.

FACULTY AND INSTRUCTORS

WILLIAM OXLEY THOMPSON, D. D., LL. D., President of the University.

JOSEPH VILLIERS DENNEY, M. A., DEAN and Professor of English.

EDGAR SHUGERT INGRAHAM, Ph. D., SECRETARY, and Associate Professor of Romance Languages.

WILLIAM HENRY SCOTT, LL. D., Emeritus Professor of Philosophy.

SAMUEL CARROLL DERBY, A. M., Professor of the Latin Language and Literature.

JOSIAH RENICK SMITH, A. M., Professor of the Greek Language and Literature.

GEORGE WELLS KNIGHT, Ph. D., Professor of American History.

ROSSER DANIEL BOHANNAN, B. Sc., C. E., M. E., Professor of Mathematics.

ALBERT MARTIN BLEILE, M. D., Professor of Anatomy and Physiology.

BENJAMIN LESTER BOWEN, Ph. D., Professor of Romance Languages and Literatures.

WILLIAM MCPHERSON, D. Sc., Ph. D., Professor of Chemistry.

HERBERT OSBORN, M. Sc., Professor of Zoology and Entomology, and Director of the Lake Laboratory.

HENRY CURWEN LORD, B. Sc., F. R. A. S., Professor of Astronomy, and Director of the Emerson McMillin Observatory.

CHARLES SMITH PROSSER, D. Sc., Ph. D., Professor of Geology.

JOHN ADAMS BOWNOCKER, D. Sc., Professor of Inorganic Geology, and Curator of the Museum.

ALFRED DODGE COLE, M. A., Professor of Physics.

WILBUR HENRY SIEBERT, M. A., Professor of European History.

M. BLAKEMORE EVANS, Ph. D., Professor of German.

DAVID R. MAJOR, Ph. D., Professor of Psychology.

CHARLES BRADFIELD MORREY, B. A., M. D., Professor of Bacteriology.

JAMES EDWARD HAGERTY, Ph. D., Professor of Economics and Sociology.

CHARLES A. BRUCE, B. A., Professor of Romance Languages and Literatures.

GEORGE WASHINGTON MCCOARD, M. A., Professor of Mathematics.

ARTHUR WINFRED HODGMAN, Ph. D., Professor of Latin.

WILLIAM EDWARDS HENDERSON, Ph. D., Professor of Inorganic and Physical Chemistry.

JOSEPH RUSSELL TAYLOR, M. A., Professor of English.

CHARLES WILLIAM FOULK, B. A., Professor of Analytical Chemistry.

THOMAS HARVEY HAINES, Ph. D., Professor of Psychology.

FRANCIS LEROY LANDACRE, B. A., Professor of Zoology and Entomology.

WALLACE STEDMAN ELDEN, Ph. D., Professor of Latin.

MATTHEW BROWN HAMMOND, Ph. D., Professor of Economics and Sociology.

HARRY WALDO KUHN, Ph. D., Professor of Mathematics.

GEORGE HARLEY MCKNIGHT, Ph. D., Professor of English.

KARL DALE SWARTZEL, M. Sc., Professor of Mathematics.

JOSEPH ALEXANDER LEIGHTON, Ph. D., Professor of Philosophy.

ARTHUR ERNEST DAVIES, Ph. D., Professor of Philosophy.

HENRY RUSSELL SPENCER, Ph. D., Professor of Political Science.

WILLIAM LLOYD EVANS, Ph. D., Professor of Chemistry.

EUGENE FRANKLIN McCAMPBELL, Ph. D., Professor of Bacteriology.

JOHN H. SCHAFFNER, M. A., M. S., Professor of Botany.

WILLIAM FRANKLIN GEPHART, Ph. D., Professor of Economics and Sociology.

WILLIAM LUCIUS GRAVES, M. A., Professor of English.

BERTHOLD AUGUST EISENLOHR, M. A., Professor of German.

FAYETTE AVERY MCKENZIE, Ph. D., Professor of Economics and Sociology.

JAMES RENWICK WITHROW, Ph. D., Professor of Chemistry.

FREDERIC COLUMBUS BLAKE, Ph. D., Professor of Physics.

OLIVER CARY LOCKHART, M. A., Professor of Economics and Sociology.

ROBERT F. EARHART, Ph. D., Professor of Physics.

JAMES STEWART HINE, B. Sc., Associate Professor of Zoology and Entomology.

EDGAR HOLMES MCNEAL, Ph. D., Associate Professor of European History.

EDMUND SEWALL MANSON, JR., S. M., Associate Professor of Astronomy.

RAYMOND JESSE SEYMOUR, M. S., M. D., Associate Professor of Anatomy and Physiology.

HOMER C. HOCKETT, B. L., Associate Professor of American History.

CARSON SAMUEL DUNCAN, Ph. D., Assistant Professor of English.

JOHN B. PRESTON, M. A., Assistant Professor of Mathematics.

ROBERT F. GRIGGS, Ph. D., Assistant Professor of Botany.

EDWIN LONG BECK, M. A., Assistant Professor of English.

LOUIS ALBION COOPER, B. A., Assistant Professor of English.

FRANCES W. COKER, Ph. D., Assistant Professor of Political Science.

CLARENCE PERKINS, Ph. D., Assistant Professor of European History.

ALFRED DACHNOWSKI, Ph. D., Assistant Professor of Botany.

CHARLES CLIFFORD HUNTINGTON, M. A., Assistant Professor of Economics and Sociology.

ALPHEUS WILSON SMITH, Ph. D., Assistant Professor of Physics.

EDWIN POE DURRANT, M. A., Assistant Professor of Anatomy and Physiology.

THEODORE ELY HAMILTON, Ph. D., Assistant Professor of Romance Languages.

CHARLES E. BLANCHARD, LL. B., Assistant Professor of English.

CARL JOSEPH WEST, M. A., Assistant Professor of Mathematics.

HARRY F. HARRINGTON, M. A., Assistant Professor of English.

SARAH TRACY BARROWS, M. L., Assistant Professor of German.

LUDWIG LEWISOHN, A. M., Assistant Professor of German.

OLIVE JONES, B. A., Librarian.

WILLIAM THOMAS MAGRUDER, M. E., Professor of Mechanical Engineering.

GEORGE L. CONVERSE, Captain (Retired), U. S. A., Professor of Military Science and Tactics.

FRANCIS CARY CALDWELL, A. B., M. E., Professor of Electrical Engineering.

ALFRED VIVIAN, G. Ph., Professor of Agricultural Chemistry.

JAMES ELLSWORTH BOYD, M. S., Professor of Mechanics.
 THOMAS EWING FRENCH, M. E., Professor of Engineering
 Drawing.

FRANK PIERREPONT GRAVES, Ph. D., Professor of the His-
 tory and Philosophy of Education.

H. SHINDLE WINGERT, M. D., Professor of Physical
 Education.

RUTH AIMEE WARDALL, M. A., Professor of Home Eco-
 nomics.

CHARLES LINCOLN ARNOLD, M. Sc., Associate Professor of
 Mathematics.

SAMUEL EUGENE RASOR, M. A., M. S., Associate Professor
 of Mathematics.

MARY REBECCA LAVER, Professor of Art.

THOMAS MCDUGALL HILLS, Ph. B., Assistant Professor
 of Geology.

MAY THOMAS, Ph. D., Assistant Professor of German.

CHARLES CLEMENTS MORRIS, M. A., Assistant Professor
 of Mathematics.

GRACE MARIE BAREIS, B. A., Assistant Professor of
 Mathematics.

CHARLES SHEARD, M. A., Assistant Professor of Physics.

FREDERICA DETMERS, M. Sc., Instructor in Botany.

ROBERT OSCAR BUSEY, Ph. D., Assistant Professor of
 German.

WILLIAM CLIFFORD MORSE, M. A., Instructor in Geology.

EXECUTIVE COMMITTEE

THE DEAN, *ex officio*; THE SECRETARY, *ex officio*;
 PROFESSOR BLEILE, PROFESSOR LEIGHTON, PROFESSOR W. L.
 EVANS, and ASSOCIATE PROFESSOR HOCKETT.

ADMISSION

Applicants for admission must be at least sixteen years of age. The College is open on equal terms to both sexes.

THE ENTRANCE BOARD

The admission of students is in charge of the University Entrance Board, which determines the credits that shall be issued on all entrance examinations and certificates, and furnishes all desired information to applicants. Correspondence relating to admission should be addressed to the Entrance Board, Ohio State University, Columbus.

ADMISSION TO COURSES LEADING TO A DEGREE

There are two modes of admission—by examination and by certificate.

ADMISSION BY EXAMINATION.

The Entrance Board will conduct entrance examinations June 3 to 7 and September 9 to 13, 1913. A part of the examinations may be taken in June and the remainder in September. All applicants for admission who are not graduates of an accredited or recognized secondary school or approved preparatory school, or who do not possess certificates from the State Board of School Examiners, must take examinations for admission.

Schedule of Examinations. The hours for examinations are 8 a. m. and 1 p. m. Students intending to take any of the examinations scheduled in any given half day must appear within one hour of the time set for the examination. Students applying for examination will first go to the office of the Entrance Board, 100 University Hall, for registration.

Tuesday	A. M.	History: Ancient and Medieval (to 814 A. D.), Medieval and Modern (after 814 A. D.), English.
"	P. M.	English Composition and Rhetoric, English Classics, Chemistry.
Wednesday	A. M.	Algebra, Physical Geography, Greek.
"	P. M.	Plane Geometry, German, Spanish.

Thursday	A. M.	Civil Government, Solid Geometry, Zoology.
"	P. M.	Beginning Latin and Caesar, Elements of Agriculture, Trigonometry, Commercial Geography.
Friday	A. M.	Physics, Physiology, Botany.
"	P. M.	American History, French, English Literature.
Saturday	A. M.	Vergil, Cicero, Domestic Science.

A special bulletin of entrance information will be mailed on request. Address The University Editor.

ADMISSION BY CERTIFICATE

Applicants may be admitted without examination on presentation of properly indorsed certificates from such secondary schools as have been accredited or recognized by the University, or from approved normal schools, or from the State Board of School Examiners under the following provisions:

(a) If from secondary schools, the certificate must show that the applicant is a graduate in good standing of the school issuing it; and must also state in detail the studies pursued, the text-books used, the amount of work done in each study, the amount of time devoted to it, and the fact that the applicant has passed in the work.

(b) Any entrance requirement not covered by a certificate must be met by examination.

Blank certificates may be obtained by addressing the Secretary of the Entrance Board. Certificates should be filled out and returned to the University by the proper school official as early as possible after the close of schools in June.

REQUIREMENTS BY UNITS

A unit is the equivalent of a course of study continuing through a school year and covering, in the aggregate, not less than one hundred and twenty clock-hours of classroom work, two hours of manual training or laboratory work being equivalent to one hour of classroom work.

To obtain full standing in this College, applicants under twenty-one years of age must have credit by examination or certificate for fifteen units—of which three shall be English;

one, history; two, mathematics; one, physics or chemistry; and four, language other than English. The fifteen units shall be selected from the following list:

English1, 2, 3, or 4 units
(Foreign students may substitute their native language for the English requirement.)

American History or American History and Civil Government 1 unit
Ancient History (Greek and Roman) and Medieval History to 814 A. D. 1 unit
Medieval and Modern History (from 814 A. D. to the present) 1 unit

(For the present, General History may be counted as a unit, but not in addition to Ancient or Medieval and Modern History.)

English History 1 unit
Algebra (through quadratics) 1 unit
Algebra (beyond quadratics) $\frac{1}{2}$ unit
Geometry (plane) 1 unit
Geometry (solid) $\frac{1}{2}$ unit
Trigonometry $\frac{1}{2}$ unit
Latin 2, 3, or 4 units
Greek 2, or 3 units
German 2, 3, or 4 units
French 2, 3, or 4 units
Spanish 2, 3, or 4 units

(Not less than two units of any foreign language will be accepted.)

Physics	1 unit
Chemistry	1 unit
Physical Geography.....	1 unit
Zoology	1 unit
Botany	1 unit
Physical Geography	
Zoology	
Botany	
Physiology	

} For the present any
two of these may be
counted together as 1 unit

Agriculture	} The Entrance Board may, after investigat- ing each claim, grant a total credit of not to exceed.....2 units
Free-hand Drawing	
Manual Training	
Domestic Science	
Commercial Geography	

No student under twenty-one years of age will be admitted to college if he is conditioned in more than two of the fifteen units. All entrance conditions must be removed within two years after admission.

Students over twenty-one years of age are admitted in accordance with the provisions stated under "Admission to Special Studies."

The extent and character of the work required in each subject mentioned above is explained in a special bulletin, entitled "Definition of Entrance Units," which will be sent to any address upon request. In general, it may be stated that the definitions of the North Central Association of Colleges and Secondary Schools are accepted as our definitions.

REMOVAL OF ENTRANCE CONDITIONS

Entrance conditions may be removed (1) by examination conducted only by the Entrance Board; or (2) by the substitution by the Entrance Board of excess work in other approved subjects; or (3) by the substitution of other work of equivalent amount to be done in the University; and it shall be the duty of the secretaries in their respective colleges to assign to each student having entrance conditions outstanding at the end of the Freshman year such college courses for the following years as may be deemed a fair equivalent for the work in which the student has entrance conditions. But a student who is taking or has completed a collegiate course is not eligible for entrance examinations upon the same topic, unless it is a fixed requirement in the college in which he is registered. (Faculty Rule 97.)

ADMISSION WITH ADVANCED STANDING

Applicants who have completed at least one year's work of collegiate rank in an approved college, and who bring to the Entrance Board official and explicit certificates describing their courses of study and scholarship, and letters of honorable dismissal, will be admitted in accordance with either of two plans:

(1) The entrance units on which the candidate was admitted to the approved college will be accepted at their face value; deficiencies will be made up from the college credits presented, and advanced credit will be given for any remaining satisfactory work; or

(2) One year's work will be accepted in lieu of entrance units and the candidate will be admitted without examination and without conditions, but without any advanced standing on the year's work.

Applicants who have completed less than one year's work in an approved college must satisfy the entrance requirements in the usual way, and will then be given credit for any satisfactory work for which they can offer certificates.

ADMISSION TO SPECIAL STUDIES

Students who desire to pursue special lines of work and do not desire to become candidates for a degree, will be admitted on the following conditions:

1. The regular entrance requirements must be satisfied.

2. But applicants who are not less than twenty-one years of age, after obtaining credit for the common English branches and for such other subjects as may be necessary to qualify them for the classes that they wish to enter, may, on the presentation of satisfactory reasons, be admitted to any class in the college; provided, that if any student who has been admitted on these conditions afterwards becomes a candidate for a degree, he shall pass the omitted entrance examinations at least twelve months before the degree is conferred.

3. Before entering the college, pupils desiring to pursue special work are required to lay before the Executive Committee for approval or modification, a written statement of the end they have in view, the studies proposed for the attainment of that end, and the probable period of attendance. Such students will be held as strictly to their accepted schemes of work as are the regular undergraduates to the course of study.

4. Permission to enter as special undergraduates will be refused to all who fail to give satisfactory evidence of definiteness of purpose, and will be withdrawn whenever the conditions on which it was granted cease to exist.

5. The privilege of admission to special studies is granted only by the concurrent action of the Executive Committee and the Entrance Board.

REQUIREMENTS FOR GRADUATION

The Group Elective System

The work of the College of Arts, Philosophy and Science is organized on the group elective system. About one-third of every student's curriculum is prescribed by the regulations given below. Each student is required to lay sufficiently broad foundations in English, other languages, the sciences, history, or economics, and in mathematics, philosophy or psychology. The remaining two-thirds of the student's work is elective.

On satisfactory completion of 120 semester hours under the regulations prescribed below, the student will be recommended for the degree of Bachelor of Arts.

The departments in which credit may be obtained are arranged in the following four groups:

(A) Languages and Literatures

English, German, Greek Language and Literature, Latin Language and Literature, Romance Languages and Literatures.

(B) Natural Sciences

Anatomy and Physiology, Astronomy, Bactériology, Botany, Chemistry, Geology, Physics, Zoology and Entomology.

(C) Social Sciences

American History, Economics and Sociology, European History, Political Science.

(D) Mathematics—Philosophy

Mathematics, Philosophy, Psychology.

Courses Open to Freshmen

The following are the only courses open to Freshmen:

English 101-104, 2 credit hours; English 131-134 (or 132-133), 3 credit hours.

French 101-102, 4 credit hours; French 103-104 (for students who enter with two units in French), 4 credit hours; French 107-112 (for students who enter with four units of French), 2 or 3 credit hours.

German 101-102, 4 credit hours; German 103-104 (for students who enter with two units in German), 4 credit hours; German 107-108 (for students who enter with four units of German), 4 credit hours.

Greek 101-102, 4 credit hours; Greek 105-106 (for students who enter with two units in Greek), 4 credit hours.

Latin 101-102 (for students who enter with three or four units in Latin), 4 credit hours.

Spanish 101-102, 4 credit hours; Spanish 103-104 (for students who enter with two units in Spanish), 4 credit hours.

Botany 101-102, 4 credit hours.

Zoology 101-102, 3 credit hours.

Astronomy 101-102, 3 credit hours.

Chemistry 105-106, 4 credit hours; Chemistry 109-110 (for students who enter with one unit in chemistry), 4 credit hours.

Geology 101-102, 3 credit hours.

Physics 103-104, 4 credit hours; Physics 105-106 (for students who enter with 1 unit in Physics), 4 credit hours.

American History 101-102, 3 credit hours.

Economics 131-134, 3 credit hours.

European History 101-102, 3 credit hours.

Mathematics 121-122, 3 credit hours; Mathematics 131-132, 5 credit hours; Mathematics 123-124, 1 credit hour.

Philosophy 101-102, 3 credit hours.

Psychology 101-102, 3 credit hours.

Drill; Gymnasium.

Regulations

(1) Cadet service is required of all men during the first and second years.

Physical Education is prescribed for all men during the first year and for all women during the first and second years.

(2) English 101-104 is to be taken by all students, ordinarily in the first year.

(3) In each of the four groups named above the student must secure credit for at least six semester hours (a year course). All requirements must be satisfied as early as possible in the course.

(4) Sixteen hours of credit in languages other than English are required. But for students who enter with six units of credit in languages other than English, the college requirement is

eight instead of sixteen hours. In high school and college together the student must have credit in at least two languages other than English.

(5) Every student is required (a) to secure credit for at least six semester hours in a biological science (Botany, Physiology, or Zoology), and (b) at least six semester hours in a non-biological science (Astronomy, Chemistry, Geology or Physics). But students who are credited at the time of admission with one unit in Botany or one unit in Zoology are excused from requirement (a) and students who are credited at the time of admission with both one unit in Chemistry and one unit in Physics are excused from requirement (b).

(6) At least 36 of the 120 hours required for the degree must be in some one of the groups mentioned above, and at least 18 in some other one of the groups mentioned above. In no one of the groups may more than 60 hours be credited for the degree, exclusive of the requirement made in Regulations 2, 3, 4 and 5 above.

(7) At least 36 of the 120 hours required for the degree must be in courses not open to Freshmen.

(8) Courses open to Freshmen, if elected by Seniors, give credit diminished by one hour.

(9) Each year's work must consist of 15 or 16 hours work each semester. On petition to the Executive Committee a student who shows exceptional proficiency may take from one to three extra hours, but in no case will more than 18 hours be permitted. No extra hours will be granted to a first-year student or to a student having conditions outstanding in his Entrance or College record.

RULE GOVERNING ELECTIONS

Each student enrolled in the College of Arts, Philosophy and Science must file at the Registrar's office not later than June 1 of each year a complete statement of the courses he wishes to enter the following year. Blanks for this purpose may be obtained of the Registrar.

FEE FOR CHANGES IN SUBJECTS OR SCHEDULE

After five days from each registration day, changes in subjects or schedule, if made at the request of the student, shall be made only upon the payment of a fee of \$1.00 for each change.

STUDENT ADVISERS

The Faculty of Arts, Philosophy and Science has provided a system of advisers, the chief objects of which are: (1) to assist the undergraduates in choosing studies that will result in a well-rounded course and will achieve most economically the purpose which the student has in view in his course; (2) to promote closer personal relations between student and instructor and thus to aid the student, so far as possible, in all matters connected with his university life. On entering the University each student is assigned by the Executive Committee to a temporary adviser to whom he is cordially invited to resort for counsel as often as the need arises. Before the close of the year each student chooses a permanent adviser. Each student is required to secure the signature of his adviser to his election card in June of each year, and to petitions, at any time during the year, for a change in work or for increase or diminution of work.

THE ARTS-LAW COURSE

Students desiring the degree of Bachelor of Arts in the College of Arts, Philosophy and Science, and the degree of Bachelor of Laws in the College of Law, may, by complying with the regulations below obtain the two degrees in six years.

On satisfactory completion of the three years' work, comprising ninety-six semester hours, in the College of Arts, Philosophy and Science, and the first year of the course in the College of Law of this University, under the usual regulations governing work in each of the two colleges (except as indicated below), the student will be recommended for the degree of Bachelor of Arts.

All regulations applying to students in the College of Arts, Philosophy and Science apply in the combined Arts-Law course except as modified by the following statements:

1. No student is eligible for the combined Arts-Law course who has not been a student in the College of Arts, Philosophy and Science of this University at least one full year.

2. At least thirty-six of the ninety-six semester hours of Arts College subjects required for the degree in Arts must be in the Social Sciences Group and eighteen in some other one group. Of the work in the Social Sciences Group, at least

eighteen hours must be in advanced courses. In no one of the groups may more than forty hours be credited for the degree, exclusive of the requirements made in Regulations 2, 3, 4 and 5, page 18.

3. At least thirty-six of the ninety-six hours of Arts College subjects required for the degree must be in courses not open to freshmen.

4. Business Law (Economics 143) may not be counted towards the degree in the combined Arts-Law course.

5. In order to have the first year of the Course in Law counted towards the Arts degree, the student must have maintained a uniform record of good scholarship in the College of Arts, Philosophy and Science and have completed the entire requisite ninety-six hours of work in that College before the work in the College of Law is entered upon.

5. Application for the privilege of the combined course must be filed with the Registrar not later than June 1 of the year preceding the student's proposed entrance upon the work in the Law College. The question of the applicant's eligibility to the combined course will be determined by the Executive Committee of the Arts College.

No credit in the College of Arts, Philosophy and Science will be given for work done in the College of Law except as above provided, but regular fourth-year students in the former college may, by special permission, take a limited amount of the work in the College of Law without credit in the College of Arts, Philosophy and Science.

The work of all students taking studies in the two colleges at the same time is under the jurisdiction of a joint committee, consisting of Professor Denney, Dean of the College of Arts, Philosophy and Science; Professor Adams, Dean of the College of Law; Professors Seibert, Page and Bruce.

THE ARTS-EDUCATION COURSE

Two Degrees

Students who have received credits for one hundred and forty hours and who have met all requirements, both for a degree in the College of Arts, Philosophy and Science, and for a degree in the College of Education, will be granted the degree of Bachelor of Arts by the former college and the degree of

Bachelor of Science in Education by the latter college. Applicants for both degrees must register in both colleges.

THE ARTS-ENGINEERING COURSE

The entrance requirements for the combined course shall be the same as for the College of Arts except that one unit of Physics is required.

A candidate for the degree of Bachelor of Arts, while registered in the College of Arts, Philosophy and Science, may also register in the College of Engineering, provided that at the time of seeking such registration in the College of Engineering he has ninety semester hours to his credit in the College of Arts, Philosophy and Science, exclusive of the credit hours in Military Drill and Physical Education, and including the following subjects:

Mathematics, 131, 132, 141, 142, 20 hours; Chemistry, 105 and 106, or 109 and 110, 8 hours; Modern Language, French, German or Spanish, 16 hours; English 101 and 104, 4 hours; Social Science, 6 hours; Biological Science, 6 hours; Physics, 113 and 114, 10 hours; Engineering Drawing, 101 and 102, 5 hours; Arts Electives, 15 hours; total, 90 hours.

Eighty semester hours of the above work shall be in those subjects mentioned in the four group (see page 17).

When the candidate has obtained 124 semester hours in the two colleges exclusive of Military Drill and Physical Education, 100 semester hours of which shall be subjects accepted by the Arts College, and exclusive of those published in the appendix of the Arts College bulletin, the candidate shall receive the degree of Bachelor of Arts. This will ordinarily be at the end of one year's residence in the College of Engineering. At least six semester hours, other than Mechanics, of the above mentioned 100 hours, must have been earned during the first year of residence in the College of Engineering. At the end of two more years, by doing the regular amount of work, the candidate will have completed the requirements of any one of the Engineering degrees, and will be recommended for the appropriate degree.

PREMEDICAL COURSES

Students preparing for the study of medicine are permitted to select their work for the first two years from the following subjects: English, Modern Language, History, Psychology, Mathematics, Physics, Chemistry, and Zoology. Such students should make known to the Executive Committee their intentions, immediately upon admission to the University.

ANNOUNCEMENTS OF DEPARTMENTS

AMERICAN HISTORY

(Office, Room 207, University Hall)

PROFESSOR KNIGHT, ASSOCIATE PROFESSOR HOCKETT, MR. SCHLESINGER

101-102. Political History of the United States. Three credit hours. The year. M., W., F., at 8, 9, 1; Tu., Th., Sat., at 11. Mr. Knight, Mr. Hockett, Mr. Schlesinger.

101 is repeated the second semester. Tu., Th., S., at 9. 102 is repeated the first semester. Tu., Th., S., at 9. Mr. Schlesinger.

An outline course, covering the period 1750-1910 (first semester, 1750-1829; second semester, 1829-1910), considering political, economic, and personal aspects of American History. The volumes of the Epochs series, by Hart and Wilson, are used as textbooks, supplemented by outside reading. Recitations and reports. This must precede all other courses in American History.

***103-104. The American Colonies, 1600-1763.** Two credit hours. The year. Tu., Th., at 9. Mr. Hockett.

A course in the general history of the English colonies in America, with especial emphasis on European conditions affecting colonization, the development of government in the several colonies, and relations with the mother country. Lectures, quiz, and reports.

107-108. Constitutional History of the United States. Two credit hours. The year. Tu., Th., at 11. Mr. Hockett.

A careful study of the origin and growth of the federal constitution. Beginning with a brief study of the constitutional ideas of Americans in the revolutionary period, the course studies the formation of the constitution by the Convention of 1787, and follows its development as interpreted by the executive, congress and the courts, in dealing with such questions as the acquisition of territory, internal improvements, the tariff, United States Bank, slavery, relations of the nation and the states. Lectures, quiz, and reports.

*Not given in 1913-1914.

109-110. Political Parties in the United States. Two credit hours. The year. M., F., at 10. Mr. Schlesinger.

A detailed study of the rise, progress and decline of the several parties, with special reference to their relations to general social and economic conditions. Lectures, quiz, and reports. Given biennially, alternating with Course 105-106.

For Graduates and Advanced Undergraduates

For all courses in this group, the prerequisite is four semesters in the Social Sciences group, of which at least two must be in American History.

***105-106. The Revolutionary and Critical Period, 1763-1787.** Two credit hours. The year.

An examination of the constitutional relations of the American colonies to the British empire; of the political, commercial, and personal causes of the revolt, and the process by which they co-operated to bring about separation; of the radical movement and the reaction from it; of the constructive elaboration of written constitutions by the states and for the Union. Lectures, quiz, and reports. Given biennially, alternating with Course 109-110.

***111. The Slavery Struggle to 1854.** Three credit hours. First semester. Given biennially, alternating with Course 113. Mr. Knight.

***112. The Slavery Struggle and its Results, 1854-1900.** Three credit hours. Second semester. Given biennially, alternating with Course 114. Mr. Knight.

Courses 111 and 112 comprise a detailed study of the development of slavery in its connection with and influence upon the constitutional and political history of the country, the rise and fall of parties, and the divergence of the sections; its relation to the Civil War; the results of the struggle traced in the reconstruction of the Southern states and the readjustment of society and the states to the new status of the negro. Lectures, quiz, and reports.

113. The History of American Diplomacy, 1776-1850. Three credit hours. First semester. M., W., F., at 8. Given biennially, alternating with Course 111. Mr. Knight.

*Not given in 1913-1914.

114. American Diplomatic History and Problems, 1850-1910. three credit hours. Second semester. M., W., F., at 2. Given biennially, alternating with Course 112. Mr. Knight.

Courses 113 and 114 comprise a systematic study of the diplomacy and foreign relations of the United States; the birth, evolution, and variations of the foreign policy of the country in territorial, commercial, and continental subjects, with a consideration of recent important diplomatic problems in this field. Lectures, quiz, and reports.

115-116. The History of the West. Three credit hours. The year. M., W., F., at 11. Mr. Hockett.

This course studies the westward advance of population since early colonial times, dealing with the causes of the movement, conditions affecting it, the development of new communities, and the influence of this western growth upon national history and institutions. The course is essentially a study of the growth of American society. Lectures, quiz, and assigned readings.

119-120. Proseminar in Political History. Two credit hours. The year. Time to be arranged. Prerequisite, four semesters in American History. Mr. Hockett.

The work of the Proseminar for the year 1913-1914 will consist of practise in simple historical methods, concluding with the preparation by each student of an original research topic.

123-124. Recent History of the United States, 1870-1910. Three credit hours. The year. M., W., F., at 3. Mr. Knight.

An intensive study of the political, constitutional, industrial and social life of the nation and the states during the past generation; it includes a consideration of new applications of the constitution, industrial development, territorial expansion, the entry of the United States into world politics, third party movements and the rise of the new democracy. Lectures and individual investigation.

For Graduates Only

201. Reconstruction of the South, 1862-1870. Two credit hours. First semester. M., F., at 4. Mr. Knight.

An intensive study of the reconstruction era, the action of the national executive and congress and the installation of the reconstructed state governments.

202. Political History of the South, 1870-1900. Two credit hours. Second semester. M., F., at 4. Mr. Knight.

A detailed study of the career of the reconstructed state governments, the failure and undoing of the reconstruction policy, and the influence of the era upon national history.

***203-204. The United States and Latin America, 1800-1905.** Two credit hours. The year. Mr. Knight.

A study of the diplomatic and political history, and of the problems and policies, of the United States in relation to Mexico, Central and South America, and Cuba. This course alternates biennially with courses 201 and 202.

205-206. Graduate Seminar. Two credit hours. The year. Tu., at 4. Mr. Knight.

The field of investigation and co-operative study for 1913-1914 will be the administration of Hayes.

ANATOMY AND PHYSIOLOGY

(Office, Room 12, Biological Hall)

PROFESSOR BLEILE, ASSOCIATE PROFESSOR SEYMOUR, ASSISTANT PROFESSOR DURRANT, MR. ALLEN

101-102. Human Anatomy and Physiology. Three credit hours. The year. Must be preceded by a course in chemistry. M., W., F., at 8, 9 and 2; T., Th., S., at 9. Mr. Bleile, Mr. Seymour, Mr. Durrant.

119-120. General Physiology. Three credit hours. The year. Not open to Freshmen. Arranged for students who have no credit in chemistry. Tu., Th., S., at 9. Mr. Bleile.

(Students who have had chemistry will elect Course 101-102.)

104. Chemical Physiology. Three credit hours. Second semester. Th., F., 1 to 4. Mr. Bleile.

105-106. Histology and Histo-Chemistry. Five credit hours. The year. M., Tu., W., 1 to 4. Mr. Bleile, Mr. Seymour, Mr. Durrant.

*Not given in 1913-1914.

For Advanced Undergraduates and Graduates

109-110. **Physiological Laboratory.** Three credit hours. Time to be arranged. The year. Mr. Bleile.

111-112. **Physiological Laboratory.** Five credit hours. Time to be arranged. The year. Mr. Bleile.

115. **Advanced Physiology.** Circulation, digestion and respiration. Three credit hours. First semester. Prerequisite, Physiology 101-102. M., W., F., at 11. Mr. Bleile.

118. **Advanced Physiology.** The nervous system. Three credit hours. Second semester. M., W., F., at 11. Prerequisite, Physiology 101-102. Mr. Seymour.

Exclusively for Graduates

201-202. **Advanced Physiology.** Three credit hours. The year. Time to be arranged.

203-204. **Advanced Physiology.** Five credit hours. The year. Time to be arranged.

ANCIENT ART

(See Greek Languages and Literature)

ASTRONOMY

(Office, Emerson McMillin Observatory)

PROFESSOR LORD, ASSOCIATE PROFESSOR MANSON

101-102. **General Astronomy.** Three credit hours. The year. M., W., F., at 8 or 9. Mr. Manson.

104-105. **Astronomy, Geodesy and Least Squares.** Three credit hours. The year. Mr. Lord, Mr. Manson.

This course begins in the second semester and continues through the first semester of the following year. Prerequisite, the calculus.

107-108. **Advanced Astronomy.** Three to five credit hours. The year. Prerequisite, the calculus. Mr. Lord, Mr. Manson.

109-110. **The Theory of Lenses.** Four credit hours. The year. Prerequisite, the calculus. Mr. Lord.

A course in applied optics, beginning with the Gaussian theory of lenses and followed by a complete discussion to terms of the second order of spherical aberration, central and oblique

refraction, coma (Von Seidel's second condition), distortion, and achromatism. Supplemented with laboratory practise in the design and construction of simple photographic lenses.

BACTERIOLOGY

(Office, Veterinary Laboratory Building)

PROFESSOR MORREY, PROFESSOR MCCAMPBELL, ASSISTANT PROFESSOR
STARIN AND DEPARTMENT ASSISTANTS

These courses in Bacteriology are open to advanced undergraduates and graduate students only. The instructor in charge must be consulted before electing.

107. General Bacteriology. Three to five credit hours. First semester. L., M., W., at 8, or Tu., Th., at 9; Lab. Tu., Th., or W., F., 1-4; S., 8-11; M., 1-4. Mr. Morrey, Mr. McCampbell, Mr. Starin, Mr. Jansen, Mr. Gatewood.

Making of media, cultures, staining methods, physiological properties.

108. Pathogenic Bacteria. Three to five credit hours. Second semester. L. M., W., at 8, or Tu., Th., at 9; Lab. Tu., Th., or W., F., 1-4. Prerequisite, Bacteriology 107. Mr. Morrey, Mr. McCampbell, Mr. Starin, Mr. Jansen, Mr. Gatewood.

114. Water Examination, Sewage Disposal, Water Filtration. Three to five credit hours. Second semester. Prerequisite, 107. L. M., W., at 9; Lab. afternoons. Mr. Morrey.

116. Bacteriological Chemistry (Enzymes). Three to five credit hours. Second semester. L. M., W., at 11; Lab. afternoons. Prerequisite, Bacteriology 107. Mr. Morrey.

117-118. Immunity and Serum Therapy. Three to five credit hours. The year. L. Tu., Th., at 1; Lab. Tu., Th., 2-5. Prerequisite, 107 and 108, or equivalents. Mr. Starin.

Preparation of toxins, antitoxins and vaccines and immune serums.

119-120. Pathogenic Protozoa. Three to five credit hours. The year. Two lectures, two to six hours' laboratory work. Prerequisite, Bacteriology 107-108, or equivalents. Mr. Starin.

125-126. Special Problems in Bacteriology. Three to five credit hours. The year. Time to be arranged. Conferences,

library and laboratory work. Prerequisite, one year's work in Bacteriology. Mr. Morrey, Mr. Starin.

BIBLICAL LITERATURE, HISTORY AND EXEGESIS.

(Office, Orton Hall)

PROFESSOR BREYFOGLE

101. Biblical Literature. History and religion in outline. Three credit hours. First semester. A consideration of the literature, history and religion of the Old Testament. Lectures, quiz, and reports. M. Tu., Th., at 10.

This is a general course touching upon the historical crises of the Old Testament, with an attempt to recreate the political, economic and social conditions as a basis for the better understanding of the moral and religious teachings. A stereopticon will be used, showing the latest discoveries in Palestine, Egypt and Assyria, which bear upon our period.

102. Historical Christianity in Outline. Three credit hours. Second semester. A consideration of Judaism, of the life, work, and teachings of the founder of Christianity, and of Apostolic teaching. M., Tu., Th., at 10.

This course is intended to give the student a systematic knowledge of the New Testament in its historical setting. It will consider the relation of Christianity to Hellenic Judaism, the teachings of Jesus as shown by a comparison of the gospels, and the expansion of Christianity throughout the world during the Apostolic times. Stereopticon views will be freely used and an endeavor made to familiarize the student with the text.

***103-104. The History of Religion in Outline.** Three credit hours. The year. A consideration of the great book religions of the world. Lectures, quiz, and reports.

BIBLIOGRAPHY

(Office, Library)

MISS JONES, MR. REEDER

105-106. Bibliography for the Social Sciences. One credit hour. The year. In order to take this work any one of the courses in the Social Sciences group must have been completed,

*Not given in 1913-1914.

and an additional course in the group must be carried at the same time. Mr. Reeder.

This course covers the use of library catalogues, magazine indexes, reference books, and national, state and municipal documents, which form the basis of advanced work in courses given by the departments of American History, Economics and Sociology, Political Science and European History. Lectures and problems.

BOTANY

(Office, Botanical Hall)

PROFESSOR SCHAFFNER, ASSISTANT PROFESSORS GRIGGS AND DACHNOWSKI,
DR. DETMERS AND MR. STOVER

101-102. General Botany. Four credit hours. The year. L., M., or F., at 10; Tu., at 8, and W., at 11; Lab. M., F., at 10-12 or 1-3; Tu., Th., 8-10 or 10-12 or 1-3. Quiz, M., at 1 or 3; Tu., at 3; Th., at 8, 10 or 3, or F., at 3. Textbooks, Curtis's Nature and Development of Plants (2nd edition), Schaffner's Laboratory Outlines for General Botany (3rd edition). Mr. Schaffner, Mr. Griggs, Miss Detmers, Mr. Stover.

This course gives a general survey of the plant kingdom by the comparative method of morphological types and life cycles. It is intended to present a general view of the morphology, evolution and classification of plants from the lowest to the highest.

110. General Dendrology. Two credit hours. Second semester. W., 1-4. Text-book, Schaffner's Trees of Ohio and Surrounding Territory. Mr. Schaffner.

A study of trees and shrubs with practise in the identification of woody plants, both in summer and winter condition. Students are required to prepare a dendrological herbarium.

113. Morphology of the Higher Fungi. Three credit hours. First semester. W., at 11; M., F., 9-11. One lecture and two laboratory periods. Prerequisite, Botany 101-102. Mr. Stover.

A study of the forest fungous flora, both fleshy and woody forms, with special reference to edible and poisonous mushrooms and to the wood-destroying species.

116. Plant Pathology. Three credit hours. Second semester. W., at 11; M., F., 10-12. Lecture and laboratory. Pre-

requisite, Botany 101-102, or equivalent. Text-book, Duggar's *Fungous Diseases of Plants*. Mr. Stover.

117-118. Forest Ecology. Four credit hours. The year. Tu., Th., at 9; M., W., 1-4. Lectures and laboratory. Prerequisite, Botany 101-102, or equivalent. Mr. Dachnowski.

120. Field Botany. Two credit hours. Second semester. Saturdays. Prerequisite, General Botany. Mr. Griggs.

121. Plant Genetics. Two credit hours. First semester. One lecture, one period laboratory. W., 1-4. Prerequisite, Botany 101-102 and one additional year of some biological subject. Students electing this course should also take Zoology 129. Mr. Schaffner.

In this course the foundation principles of plant genetics are considered, including a study of fertilization and reduction, hybridization, Mendelian laws, fluctuations and mutations, together with practical methods of procedure in crossing both lower and higher plants.

123-124. Advanced Morphology. Three to five credit hours. The year. Laboratory, W., 1-4. Prerequisite, Botany 101-102, or equivalent. Mr. Griggs.

This course is intended to complete the morphological training begun in the first year. It includes instruction in micro-technique. Whenever possible, this course should be accompanied by Botany 135-136.

125-126. Plant Physiology. Four credit hours. The year. Tu., Th., at 8; Tu., Th., 1-4. Lectures and laboratory. Prerequisite, Botany 101-102, or equivalent. Mr. Dachnowski.

The course is an experimental study of the soil, air, and biotic relations of plants. It aims to give training and instruction in such phases of nutrition, growth, movement, and the tropisms of plants as have a practical bearing in agriculture, forestry and general biology.

135-136. Evolution of Plants. One credit hour. The year. M., at 4. Prerequisite, one year course in botany. Mr. Schaffner.

A presentation of the progress of evolution in the plant kingdom, with a general discussion of the problems and factors involved, including both the scientific and philosophical aspects of the subject.

For Advanced Undergraduates and Graduates.

127-128. General Plant Pathology. Four credit hours. The year. Laboratory and field work. Prerequisite, Botany 101-102 or equivalent. Mr. Griggs.

129-130. Systematic Botany. Three to five credit hours. The year. M., 1-4. Prerequisite, Botany 101-102, or equivalent. Mr. Schaffner.

A thorough study of the organography of the flowering plants from the standpoint of evolution, including a special consideration of phyletic series, probable relationship, the significance of vestiges, specializations and adaptations, and the development of a correct taxonomy.

131-132. Cytology and Microtechnique. Three to five credit hours. The year. Prerequisite, Botany 123-124, or equivalent. Mr. Schaffner.

133-134. Minor Investigations. Three to five credit hours. The year. Prerequisite, Botany 101-102, or equivalent. Mr. Schaffner, Mr. Griggs, Mr. Dachnowski, Mr. Stover.

137-138. Seminar in Botany. One credit hour. The year. Prerequisite, two years work in botany.

This course should be elected only in connection with other advanced courses.

139-140. Advanced Mycology. Three to five credit hours. The year. Prerequisite, Botany 127-128, or equivalent. Mr. Griggs, Mr. Stover.

For Graduates.

201-202. Research in Systematic Botany. Three to ten credit hours. The year. Laboratory open daily. Mr. Schaffner, Mr. Griggs.

203-204. Research in Morphology and Cytology. Four to ten credit hours. The year. Laboratory open daily. Mr. Schaffner, Mr. Griggs.

205-206. Research in Physiology and Ecology. Four to ten credit hours. The year. Laboratory open daily. Mr. Dachnowski.

207-208. Research in Mycology. Three to ten credit hours. The year. Laboratory open daily. Mr. Griggs, Mr. Stover.

CHEMISTRY.

(Office, Room 100, Chemistry Hall)

PROFESSOR MCPHERSON, EMERITUS PROFESSOR NORTON, PROFESSORS HENDERSON, FOULK, EVANS, AND WITHROW, ASSISTANT PROFESSOR WILKINSON, DR. BOORD, AND DEPARTMENT ASSISTANTS

For Undergraduates.

105. Elementary Chemistry. Four credit hours. First semester. L., M., at 8 or 3; Lab. M., Tu., 1-4; Th., F., 1-4; W., 1-4, S., 8-11; Tu., Th., 9-12; M., F., 9-12. Q., Tu., at 8 or 11; Th., at 10 or 2; W., at 11; F., at 8, 9, 10, 11 or 2. Mr. Evans, Mr. Day, Mr. Caldwell.

A general course on the chemistry of the non-metals, arranged for students who have not presented chemistry as an entrance requirement. Students taking this course will follow with course 106, second semester.

106. Elementary Chemistry and Qualitative Analysis. Four credit hours. Second semester. Time, same as course 105. Prerequisite, Chemistry 105. Mr. Evans, Mr. Caldwell, Mr. Thurston.

A general course on the chemistry of the metals. The laboratory work accompanying is a general introductory course in qualitative analysis.

109. General Chemistry. Four credit hours. First semester. L. Tu., at 8 or W., at 11. Lab. same as 105. Q., Th. at 10 or 2. F., at 8, 9, 11 or 2. Mr. Evans, Mr. Hockett, Mr. Holler.

A general course on the chemistry of the non-metals. It is more advanced than course 105 and is arranged for students who have had an acceptable course in elementary chemistry in a secondary school. Students taking this course will follow with course 110, second semester.

110. General Chemistry and Qualitative Analysis. Four credit hours. Second semester. Time, same as course 109. Mr. Evans, Mr. Holler, Mr. Hockett.

A general course on the chemistry of the non-metals. It is more advanced than course 106. The laboratory work is a general course in qualitative analysis.

113-114. **Advanced General Chemistry.** Two credit hours. The year. Tu., Th., at 11. Prerequisite, Chemistry 106 or 110. Mr. Henderson.

A course of fundamental topics in the field of advanced general chemistry.

117. **Qualitative Analysis.** Elementary course. Three credit hours. First semester. One lecture and six hours laboratory work weekly. Prerequisite, an acceptable course in general chemistry. Mr. Wilkinson.

Designed especially for students who enter with credits in general Chemistry, but who have had no experience in qualitative analysis.

119-120. **Quantitative Analysis.** Four credit hours. The year. One lecture, 9 hours laboratory work weekly. L. Tu., at 1. Laboratory open M., Tu., Th., F., 8 to 12. Prerequisite, course 106 or 110, or equivalent. Mr. Foulk, Mr. Wilkinson.

First semester, elementary principles of gravimetric and volumetric analysis. Second semester, continuation of work of first semester with typical analytical methods, gravimetric and volumetric. This course must be accompanied by course 124, except by special permission of the instructor. It is also desirable that it be accompanied by course 113-114.

124. **Chemical Problems.** One credit hour. F., at 10. Second semester. Mr. Foulk.

Extended practise in the solution of problems pertaining to gravimetric and volumetric analysis. This course is arranged to accompany course 119-120.

136. **The Reading of Chemical Literature.** Two credit hours. Second semester. Tu., Th., at 10. Prerequisite, one year of German. Mr. Foulk.

The object of this course is to afford practise in the rapid reading of German chemical literature, the selections being made with special reference to the technical terms of the science.

151-152. **Organic Chemistry.** Two credit hours. The year. Tu., Th., at 8. Prerequisite, courses 113-114 and 119-120, except by special permission of the instructor. Mr. McPherson.

This is a general course in organic chemistry.

153-154. Organic Chemistry. Two or three credit hours. The year. Six or nine hours laboratory work weekly. Laboratory open afternoons. This course must be accompanied or preceded by course 151-152. Mr. McPherson, Mr. Boord.

A general course in the preparation of typical organic compounds.

187. Inorganic Preparations. Two or three credit hours. First semester. Six to nine hours laboratory work weekly. Laboratory open afternoons. Prerequisite, Chemistry 113-114. Mr. Henderson.

A course in the preparation of a limited number of compounds chosen so as to give practise in the different kinds of manipulation involved in the preparation of inorganic compounds.

188. Inorganic Preparations. Two or three credit hours. Second semester. Laboratory open afternoons. Repetition of course 187. Mr. Henderson.

For Advanced Undergraduates and Graduates.

157-158. Physical Chemistry. Three credit hours. The year. M., W., F., at 11. Prerequisite, courses 113-114, 119-120, and 151-152, except by special permission of the instructor. Mr. Henderson.

This is a general course in physical chemistry.

161. Physical Chemistry. Two or three credit hours. First semester. Six to nine hours laboratory work weekly. Prerequisite, or concurrent, Chemistry 157-158. Mr. Henderson.

An elementary course in physico-chemical measurements.

162. Physical Chemistry. Two or three credit hours. Second semester. Repetition of Chemistry 161. Mr. Henderson.

165. Quantitative Analysis. Advanced course. Three to five credit hours. First semester. L., Tu., Th., at 10. Three to nine hours laboratory work weekly. Prerequisite, Chemistry, 119-120, or equivalent. Mr. Foulk.

A general survey of the methods of quantitative analysis. The laboratory work consists of analyses involving somewhat difficult and skilful manipulation.

167. Special Methods of Analysis. Three to five credit hours. First semester. One lecture and six to twelve hours

laboratory work weekly. Selections may be made from gas analysis, microchemical analysis and spectrum analysis. Prerequisite, Chemistry, 119-120. Mr. Wilkinson.

168. Qualitative Analysis. Advanced course. Second semester. Three to five credit hours. L. Tu., at 1. Six to twelve hours laboratory work weekly. Prerequisite, Chemistry 119-120, or equivalent. Mr. Wilkinson.

Extended work in general qualitative analysis including the more important of the rarer elements.

176. Sanitary Analysis. Three credit hours. Second semester. L. Tu., Th., at 9. Three hours laboratory work weekly. Laboratory open forenoons and afternoons. Prerequisite, Chemistry 119-120, or equivalent. Mr. Foulk.

A study of the methods of sanitary water analysis and the interpretation of results.

177. Industrial Chemistry. Two credit hours. First semester. Tu., Th., at 8. Prerequisite, Chemistry 113-114 and 153-154. Mr. Withrow.

A general course in the principles underlying the application of chemistry in the industries.

178. Industrial Chemistry. One credit hour. Second semester. W., at 8. A continuation of Chemistry 177. Mr. Withrow.

185. Industrial Chemistry. Two credit hours. First semester. M., Tu., 1 to 4. Prerequisite, Chemistry 119-120, and must be accompanied or preceded by Chemistry 177-178. Mr. Withrow.

Industrial chemical research.

186. Industrial Chemistry. Three credit hours. Second semester. W., Th., F., 1 to 4. A continuation of Chemistry 185. Mr. Withrow.

In the latter portion of the semester the study of methods for the analysis of industrial products is undertaken.

192. Rare Elements. Two credit hours. Second semester. W., F., at 8. Prerequisite, Chemistry, 119-120 and 113-114. Given in 1912-1913 and biennially thereafter. Mr. Henderson.

A general course on the chemistry of the rare elements, including a discussion of their increasing economic importance.

194. Applied Electro Chemistry. Two credit hours. Second semester. Tu., Th., at 8. Prerequisite, Chemistry 157-158, except by special permission of the instructor. Mr. Withrow.

A descriptive course covering the application of the electric current in the chemical industries.

196. Inorganic Chemistry. Two credit hours.. Second semester. Two lectures weekly. Prerequisite, Chemistry, 157-158. Given in 1912-13 and biennially thereafter. Mr. Henderson.

A general discussion of some topic in the field of inorganic chemistry. Since the topic changes from year to year, the course may be elected in different years by the same student.

Exclusively for Graduates.

201-202. Physical Chemistry. Three credit hours. The year, or may be elected either semester separately. Nine hours laboratory work weekly. Prerequisite, Chemistry, 157-158 and 161 or 162. Mr. Henderson.

A general course on physico-chemical measurements.

205-206. Organic Chemistry. Advanced course. Three to five credit hours. The year. Library, conference, and laboratory work. Prerequisite, Chemistry 153-154, except by special permission of the instructor. Mr. McPherson, Mr. Boord.

Special attention is given to the preparation of organic compounds with reference to yield and purity of products. Extended practise is also given in the quantitative determination of the elements present in organic compounds.

209-210. Inorganic Preparations. Three credit hours. The year. Library and laboratory work. Prerequisite, Chemistry 187 or 188. Mr. Henderson.

This is an advanced course dealing largely with the preparation and study of a series of compounds of certain rare metals, or of more unusual types of compounds presenting experimental difficulties.

213. Historical Chemistry. Two credit hours. First semester. W., F., at 8. Given in 1912-13 and biennially thereafter. Mr. Henderson.

A general advanced course in historical chemistry.

215. Organic Chemistry. Two credit hours. First semester. Two lectures weekly. Prerequisite, Chemistry 205-206. Given in 1912-13 and biennially thereafter. Mr. McPherson.

A general discussion of some important topic in organic chemistry.

218. Organic Chemistry. Two credit hours. Second semester. Two lectures weekly. Prerequisite, Chemistry 205-206. Given 1911-12 and biennially thereafter. Mr. Evans.

This course is similar to course 215. Topic for 1913-1914. Special Topics in the Chemistry of Nitrogen Compounds. Since the topic changes from year to year, the course may be elected in different years by the same student.

221. The Phase Rule. Two credit hours. First semester. W., F., at 8. Given in 1913-14 and biennially thereafter. Prerequisite, Chemistry 157-158. Mr. Henderson.

224. Electro Chemistry. Two credit hours. Second semester. W., F., at 8. Given in 1913-14 and biennially thereafter. Prerequisite, Chemistry 157-158. Mr. Henderson.

A discussion of the general principles underlying the subject of electro chemistry.

227. Analytical Chemistry. Two credit hours. First semester. Two lectures weekly. Prerequisite, Chemistry 119-120 and 157-158. Mr. Foulk.

A course of lectures on some topic of general interest to students in analytical chemistry. Subject for 1913-14, "The Atomic Weights." This course may be elected in different years by the same student.

231-232. Chemical Seminar. One credit hour. The year. W., at 9.

All those engaged in giving instruction in the department, together with the fellows and graduate students, meet for an extended discussion of chemical problems of general interest.

235-236. Research Work. Five to ten credit hours. The year. Library, conference, and laboratory work. Research work in organic chemistry is conducted under the supervision of Mr. McPherson, Mr. Evans and Mr. Boord; in physical and general chemistry under Mr. Henderson; in analytical chemistry under Mr. Foulk and Mr. Wilkinson; in industrial and electro-chemistry under Mr. Withrow.

ECONOMICS AND SOCIOLOGY.

(Office, Room 211, University Hall)

PROFESSORS HAGERTY, HAMMOND, GEPHART, MCKENZIE, AND LOCKHART,
AND ASSISTANT PROFESSORS HUNTINGTON AND WALRADT, MISS
SHEETS AND MR. MILLS

131. Economic and Social History of England and the United States. Three credit hours. First semester. M., W., F., at 9; second semester, M., W., F., at 1. Open only to first and second year students. Mr. Walradt.

134. Economic Geography. Three credit hours. First semester. M., W., F., at 1. Second semester. M., W., F., at 9. Mr. Huntington.

The influences of geographic environment, with special reference to North America.

135-136. Principles of Economics. Three credit hours. The year. M., W., F., at 8, 9, 11, 1, 2 or 3; T., Th., F., at 10; T., Th., S., at 9. Not open for first year students. Should precede all courses in Economics, except 131 and 134. Mr. Hammond, Mr. Gephart, Mr. Lockhart, and Mr. Walradt.

136 is also given, first semester. Tu., Th., S., at 10. Mr. Walradt.

135 is also given, second semester. Tu., Th., S., at 10. Mr. Walradt.

139-140. Elements of Accounting. Two credit hours. The year. Tu., Th., at 8 or 9. Prerequisite, registration in 135-136. Mr. Huntington.

An introduction to practical accounting, including the analysis and interpretation of business statements.

147-148. Financial History of the United States. Two credit hours. The year. Tu., Th., at 8. Prerequisite, Economics 135-136. Mr. Walradt.

A study of the fiscal and monetary history of the country from colonial times to the present, with special reference to federal taxation, loans and financial administration, currency legislation, and the development of banking institutions.

149-150. Business Law. Two credit hours. The year. T., Th., at 9. Mr. Gephart. Prerequisite, Economics 135-136.

A study of the leading principles of interest to the business man to be found in the law of contracts, agency partnerships, corporations, personal and real property, suretyship and guaranty, insurance, the estates of decedents, etc.

145-146. Senior Seminar in Economics. Two credit hours. The year. M., 3 to 5. Mr. Hammond, Mr. Gephart, Mr. Lockhart.

A course of individual investigation and class discussion of practical economic problems. Recommended to students who have had at least two years' work in economics. Open to students who have obtained permission of the instructor.

For Advanced Undergraduates and Graduates.

***141. Public Finance.** Two credit hours. First semester. Tu., Th., at 11. Prerequisite, Economics 135-136. Mr. Lockhart.

Public expenditures; public revenues, with special reference to taxation; public credit; the budget; financial administration.

***144. Problems of Taxation.** Two credit hours. Second semester. T., Th., at 11. Prerequisite, Economics 169. Mr. Lockhart.

A course dealing with questions of reform in taxation. The Ohio system of taxation will be given special consideration.

***152. Business and Social Statistics.** Three credit hours. Second semester. M., W., F., at 9. Prerequisite, Economics 135-136. Mr. Gephart.

A study of statistical methods, the use of statistics and the proper representation of statistical data. Concrete studies are made of the significance of certain vital statistics, such as death, birth, marriage and divorce rates, of population movements, of industrial and business conditions as indicated by wage, income, corporations and other business statistics.

153. Money and Currency. Three credit hours. First semester. M., W., F., at 9. Prerequisite, Economics 135-136. Mr. Lockhart.

The relation of money to prices; monetary systems; bi-metalism, the gold standard, government and bank paper money; banking history and legislation, with special reference to note issues; currency reform in the United States.

*Not given in 1913-1914.

154. Banking and the Money Market. Three credit hours. Second semester. M., W., F., at 9. Prerequisite, Economics 153. Mr. Lockhart.

The organization and functions of banks and other financial institutions; the mechanism of the money and investment markets; the rate of discount; types of investment securities.

157. Life Insurance. Two credit hours. First semester. Tu., Th., at 10. Prerequisite, Economics 135-136. Mr. Gephart.

Principles of life insurance and its economic and social significance; kinds of companies, policies; methods of organization, operation and regulation. Health, accident, industrial and old-age insurance.

158. Property Insurance. Two credit hours. Second semester. Tu., Th., at 10. Prerequisite, Economics 135-136. Mr. Gephart.

Fire, marine, liability, and miscellaneous insurance. Historical development and practise of various forms of property insurance. A careful study of each class of companies, their risks, policies, methods of operation and regulation by state.

159. Commercial Development. Three credit hours. First semester. M., W., F., at 11. Mr. Gephart.

A study of the basis and development of commerce in the chief commercial nations. Present and prospective leadership among commercial nations and the factors contributing to it. Regulation of commerce by the state and local governments.

***160. Commercial Policies.** Three credit hours. Second semester. M., W., F., at 11. Prerequisite, Economics 135-136. Mr. Gephart.

Theories of international trade, mercantilism, free-trade and protection; a study of the tariff of the United States with a comparative study of those of the leading commercial nations. Balance of trade, domestic and foreign exchange.

***161. Mercantile Institutions in Domestic Trade.** Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Hagerty.

The evolution and organization of mercantile institutions with a study of the methods of selling and distributing goods,

*Not given in 1913-1914.

including selling agencies, traveling salesmen, produce exchanges, commercial credit, mercantile agencies, etc.

162. Foreign Markets and the Consular System. Three credit hours. Second semester. Prerequisite, Economics 135-136. M., W., F., at 11. Mr. Gephart.

The significance of exports and imports. The work of the state in furthering commerce. The contest for markets and the methods of securing them. An analysis of the commerce of the United States and the leading commercial nations.

163. Corporation Economics. Three credit hours. First semester. M., W., F., at 9. Mr. Hammond.

The development of corporations. Corporate organizations, management and finance. Forms and methods of industrial consolidations. Monopolistic tendencies in industry. Public regulation of industrial monopolies.

164. Industrial Organization. Three credit hours. Second semester. M., W., F., at 1. Prerequisite, Economics 135-136. Mr. Hammond.

The development and internal organization of modern manufacturing enterprises. The forces determining their location. Factory administration. Welfare work. "Scientific Management." Lectures, reports, and visits of inspection to local plants.

***165. Labor Legislation.** Three credit hours. First semester. M., W., F., at 1. Prerequisite, Economics 135-136. Mr. Hammond.

A study of the labor laws of the United States and the principal foreign countries with reference to their social and economic causes and effects.

***166. Organization and Remuneration of Labor.** Three credit hours. Second semester. M., W., F., at 1. Prerequisite, Economics 135-136. Mr. Hammond.

History of the labor movement. Trade union policies and methods. Employers' organizations. Collective bargaining. Industrial arbitration. Attempts to modify the wage system. Time, piece, and progressive wages. Profit sharing, labor co-partnership and co-operation.

*Not given in 1913-1914.

167. Railway Economics. Three credit hours. Second semester. M., W., F., at 9. Prerequisite, Economics 135-136. Mr. Hammond.

The development of the means of transportation. Railway growth and consolidation. Railway rate theories and practise. Railway commissions and public control. Government ownership of railroads.

168. Railway Organization and Administration. Three credit hours. First semester. M., W., F., at 1. Prerequisite, Economics 135-136. Mr. Hammond.

The organization of a modern railway system and the functions of the various departments. Rate making and the work of the traffic department. The work of the industrial commissioner. Railway finance and statistics. The relation of the railroads to the accounting division of the Interstate Commerce Commission.

***171. Principles of Accounting.** Three credit hours. First semester. M., W., F., at 8. Prerequisite, Economics 139-140 Mr. Huntington.

The principles of modern accounting, including a study of some of its problems, especially those connected with the balance sheet and the income statement, as the valuation of assets, and the treatment of good will, depreciation, capital stock, profits, surplus, reserves, etc.

***172. Cost Accounting.** Three credit hours. Second semester. M., W., F., at 8. Prerequisite, Economics 171 or 173. Mr. Huntington.

The purpose of cost accounting, the relation of the various elements of cost, and the methods of recording them in various types of industries.

173. Accounting Practise. Three credit hours. First semester. M., W., F., at 8. Prerequisite, Economics 139-140. Mr. Huntington.

The application of accounting principles. The working out of practical problems in accounting and the analyzing of reports of industrial, financial, and railway corporations.

*Not given in 1913-1914.

174. Auditing. Three credit hours. Second semester. M., W., F., at 8. Prerequisite, Economics 171 or 173. Mr. Huntington.

The duties and responsibilities of an auditor or certified public accountant, the various kinds of audits and their value, the nature and value of the auditor's report. The working out of auditing problems, and the preparation of audit reports.

***175. Principles of Advertising.** Two credit hours. First semester. A study of advertising, its laws, its economic importance, advertising costs, methods of advertising and follow-up systems; the work of the general advertiser, the advertising manager, and the general advertising agency.

II. Sociology

For Undergraduates

101-102. Principles of Sociology. Three credit hours. The year. M., W., F., at 8, 9, 1, 2, or 3. Mr. Hagerty, Mr. McKenzie and Miss Sheets.

Not open to first-year students and must precede all courses in Sociology except Sociology 113 and 114.

A study of the fundamental principles of Sociology. Text-book, lectures, collateral reading, and individual investigations.

For Advanced Undergraduates and Graduates.

***103. The Indian.** Three credit hours. First semester. M., W., F., at 1. Prerequisite, Sociology 101-102. Mr. McKenzie.

A study of primitive man. Readings from reports of the United States Bureau of Ethnology and other sources. A study of the modern Indian problem.

***104. The Immigrant.** Three credit hours. Second semester. M., W., F., at 1. Prerequisite, Sociology 101-102. Mr. McKenzie.

The causes and sources of migration, provisions for transportation, immigration laws, and the assimilation of nationalities.

***105. The Negro.** Three credit hours. First semester. M., W., F., at 1. Prerequisite, Sociology 101-102. Mr. McKenzie.

*Not given in 1913-1914.

A study of tropical man and the results of his transference to a temperate climate. Negro health, crime, education, and progress in the United States.

106. Tropical Races. Three credit hours. Second semester. M., W., F., at 1. Prerequisite, Sociology 101-102. Mr. McKenzie.

The sociological bases of progress and development of colonial and other dependent peoples are sought in the geography, resources, ethnology and administration of tropical peoples with a view to the training of students for efficient service in education, government, business, and missionary endeavor. Special attention will be paid to the Philippines and to the countries of Central and South America.

***107. The Family.** Three credit hours. First semester. M., W., F., at 11. Prerequisites, Sociology 101-102. Miss Sheets.

A study of the matrimonial institutions of primitive society and the evolution of the family through the Greek, Roman, Medieval and Modern periods.

108. Primitive Man in Ohio. One credit hour. Second semester. Th., at 10. Prerequisites, Sociology 101-102. Mr. Mills.

A study of the geological evidence of man's antiquity in Ohio. A detailed study of mounds, earthworks, and remains; environments and stages of culture; late discoveries in the mounds and village sites in Ohio. Illustrated by specimens from the Archaeological Museum.

109. Modern Charity. Three credit hours. First semester. M., W., F., at 9. Prerequisite, Sociology 101-102. Mr. Hagerty.

The treatment of dependent and defective classes. A history of poor relief in Great Britain and the United States. Outdoor and indoor relief, both public and private. Organized charity, the treatment of the vagrant, the care of dependent children, the insane, the feeble minded, the epileptic, and the education of the blind and the deaf.

110. Criminology. Three credit hours. Second semester. M., W., F., at 9. Prerequisite, Sociology 101-102. Mr. Hagerty.

A study of crime and the social and physiological causes of crime. An historical study of prison systems and methods. The indeterminate sentence, the probation, and the parole laws. The Juvenile Court and its agencies to prevent crime.

***111. Poverty.** Three credit hours. First semester. M., W., F., at 9. Prerequisite, Sociology 101-102. Mr. Hagerty.

A study of the personal and social causes of poverty and dependency. Exploitation, maladjustment, housing conditions, tenement legislation, etc. The maintenance of a reputable standard of living.

***112. Preventive Philanthropy.** Three credit hours. Second semester. M., W., F., at 9. Prerequisite, Sociology 109 or 111. Mr. Hagerty.

A study of preventive institutions, and methods for the promotion of thrift, and for sanitation and public health; parks, playgrounds, substitutes for the saloon, social settlements, child labor legislation, industrial education, building codes, etc.

113. Historical Socialism and Social Reform. Three credit hours. First semester. M., W., F., at 8. Prerequisite, Sociology 101-102, or Economics 135-136. Mr. McKenzie.

History and theory of communism, socialism and reform to the middle of the nineteenth century.

114. Recent Socialism and Social Reform. Three credit hours. Second semester. M., W., F., at 8. Prerequisite, Sociology 101-102, or Economics 135-136. Mr. McKenzie.

Marx and his contemporaries. Present movements in the United States and abroad. The social function of the church.

115-116. Field Work in Sociology. Two credit hours. One or two semesters. Time to be arranged. Open only to graduates and seniors who have had two years' work in Sociology. Miss Sheets.

A study of the work of charity organization, the Juvenile Court or the Social Settlement, through practical experience in these organizations. This course involves the preparation of papers.

117-118. Seminar in Sociology. Two credit hours. The year. M., 3-5. Open to graduates and advanced undergraduates. Mr. Hagerty, Mr. McKenzie, Miss Sheets.

***120. The Household.** Three credit hours. Second semester. M., W., F., at 11. Prerequisite, Sociology 101-102. Miss Sheets.

*Not given in 1913-1914.

The family as an economic institution. The evolution of household industries and its effect upon the home. Organization of the household with reference to the functions of man and woman.

For Graduates

***201-202. Advanced Sociology.** Two credit hours. The year. Prerequisite, Sociology 101-102. Mr. McKenzie.

A rapid review of social theories from Plato to Spencer., with a more detailed study of the writings of recent sociologists.

***203-204. Distribution of Wealth.** Three credit hours. The year. M., W., F., at 11. Mr. Hagerty.

A study of the development of economic theories concerning the distribution of the social product among the producers from the time of the mercantilists to the present time. The works of the leading writers of each period are read and discussed in class.

205-206. The State in its Relation to Industry and Labor. Two credit hours. The year. Hours to be arranged. Mr. Hammond.

A study of the trend of economic and legal thought concerning the part which the state should take in regulating and developing industry and labor. The results of the policy of non-interference and of the later tendency towards regulation in various countries, particularly those of Anglo-Saxon peoples.

207-208. Graduate Seminar in Economics and Sociology. Two credit hours. The year.

Graduate students and the instructors in the department will meet regularly for the presentation of the results of investigation, the review of current economic and sociological literature, and the discussion of current problems.

*Not given in 1913-1914.

ENGLISH.

(Office, Room 202, English Building)

PROFESSORS DENNEY, TAYLOR, MCKNIGHT, GRAVES, ASSISTANT PROFESSORS
DUNCAN, BLANCHARD, COOPER, HARRINGTON, BECK

For Undergraduates**(a) Composition**

101. Paragraph Writing. Description and Narration. Two credit hours. First semester. M., F., at 8, 9, 10 or 11; Tu., Th., at 8, 9, 10, 11, 1 or 3; W., F., at 8 or 3; S., 9-11. Text: Scott and Denney's Paragraph Writing, and Duncan, Beck and Graves's Specimens of Prose Composition. All instructors.

The work of the first semester is repeated the second semester. S., 9 to 11. Mr. Beck.

104. Paragraph Writing.. Exposition and Argumentation. Two credit hours. Second semester. M., F., at 8, 9, 10 or 11; Tu., Th., at 8, 9, 10, 11, 1 or 3; W., F., at 8 or 3. Prerequisite, English 101. All instructors.

107. Advanced Description and Narration. Two credit hours. First semester. Tu., Th., at 11. Prerequisite, English 101. Mr. Graves.

108. Advanced Exposition and Criticism. Two credit hours. Second semester. Tu., Th., at 11. Prerequisite, English 101. Mr. Graves.

111-112. Advanced Argumentative Writing. Two credit hours. The year. Tu., Th., at 10. Prerequisite, English 104. Mr. Duncan.

(b) Journalism.

113. News Collecting and News Writing. Two credit hours. First semester. Tu., Th., at 9. Prerequisite, English 101 and 104. Mr. Harrington.

Attention given to vocabulary and style, with drill in the gathering of news through exercises and assignments. The work of the reporter will be considered in connection with a discussion of the organization of the newspaper. Students will be sent to cover actual stories throughout the city. Newspaper men will address the class.

114. Newspaper Correspondence. Two credit hours. Second semester. Tu., Th., at 9. Mr. Harrington.

A continuance of course 113, with the addition of newspaper correspondence and feature writing.

115. Newspaper Practise. Three credit hours. First semester. M., W., F., at 11. Prerequisite, English 113-114. Mr. Harrington.

An advanced course intended for students who are doing work on the University or city papers. These students will be given various assignments. Practise in the writing of headlines, editing of newspaper copy, making up and reading of proof will be included in the course. Weekly consultations with the instructor.

116. Newspaper Practise. Three credit hours. Second semester. M., W., F., at 11. Mr. Harrington.

A continuation of course 115 with the addition of work in the writing and display of advertising matter. Prerequisite, English 113-114.

117. Editorial Work. Two credit hours. First semester. W., 2 to 4. Prerequisite, English 113-114, 115, 116. Mr. Harrington.

The planning and writing of magazine and trade-journal articles will be treated in this course, as well as the special problems of technical journalism.

118. Newspaper Practise.. Two credit hours. Second semester. W., 2 to 4. Prerequisite, English 117. Mr. Harrington.

The evolution of the newspaper will be treated in some detail, and attention will be given to a comparative study of the newspapers of today and to the discussion of newspaper problems, including the work of the country editor.

(c) Public Speaking

121. Principles of Public Speaking. Two credit hours. First semester. W., F., at 1 or 3. Prerequisite, English 101 and 104. Mr. Blanchard.

122. Debating. Two credit hours. Second semester. W., F., at 1 or 3. Prerequisite, English 101 and 104. Mr. Blanchard.

123. Advanced Debating. Two credit hours. First semester. W., F., at 2. Prerequisite, English 122. Mr. Blanchard.

124. **Extempore Speaking.** Two credit hours. Second semester. W., F., at 2. Prerequisite, English 122. Mr. Blanchard.

(d) **Historical and Literary**

127. **History of the English Language.** Two credit hours. First semester. Tu., Th., at 1. No prerequisite course. Designed for students without a knowledge of Old and Middle English. The development of the language is traced by means of illustrative specimens. Attention is paid to the history of spelling and pronunciation, the changes in the meaning of words, and the origin of modern idioms. Mr. Beck.

128. **English Words.** Two credit hours. Second semester. Tu., Th., at 1. No prerequisite course. Text-book: Greenough and Kittredge's Words and Their Ways in English Speech. Mr. Beck.

131. **Survey of English Literature.** Three credit hours. First semester. M., W., F., at 1; Tu., Th., S., at 8. No prerequisite course. Mr. Graves, Mr. Duncan, Mr. Cooper, Mr. Harrington, Mr. Beck.

The outline of the history of English Literature will be given by lecture. The following will be read: Shakespeare's Richard III, Twelfth Night, Coriolanus; Milton's Paradise Lost, Books III, IV; Bunyan's Pilgrim's Progress, Pt. I; Dryden's Palamon and Arcite; Addison's Essays; Pope's Rape of the Lock; Goldsmith's Essays; Scott's Kenilworth; Byron's Mazeppa; Carlyle's Essay on Biography; Dickens's Martin Chuzzlewit; Stevenson's Virginibus Puerisque.

European History 103-104 (Narrative History) is recommended in connection with this course.

Students entering the University with four units of English should elect from courses 127, 128, 133, 135, 136, 137, 138.

131. Second semester. M., W., F., at 8 or 11. Mr. Graves, Mr. Taylor. The work of the first semester is repeated.

134. **Survey of American Literature.** Three credit hours. First semester. M., W., F., at 8 or 11. No prerequisite course. Mr. Taylor, Mr. Graves.

The outline of the history will be given by lecture. The reading and criticism will be of Irving, Cooper, Bryant, and

Poe; of Hawthorne, Emerson, Whittier, Longfellow, and Lowell; and of Walt Whitman, with a brief survey of recent literature.

134. **Second Semester.** M., W., F., at 1; Tu., Th., S., at 8. Mr. Taylor, Mr. Duncan, Mr. Cooper, Mr. Harrington, Mr. Beck. The work of the first semester is repeated.

135. **The Age of Elizabeth.** (Exclusive of the drama.) Two credit hours. First semester. Tu., Th., at 2. Prerequisite, English 131. Mr. Cooper.

136. **The Age of Milton.** Two credit hours. Second semester. Tu., Th., at 2. Prerequisite, English 131. Mr. Cooper.

137. **Eighteenth Century Essayists.** Two credit hours. First semester. Tu., Th., at 11. Prerequisite, English 131. Mr. Denney.

Reading in DeFoe, Swift, Addison, Steele, Pope, Goldsmith, Johnson, Chesterfield, Mackenzie and Burke.

138. **Nineteenth Century Essayists.** Two credit hours. Second semester. Tu., Th., at 11. Prerequisite, English 131. Mr. Denney.

Reading in Coleridge, Lamb, Landor, Hazlitt, De Quincey, Carlyle, Ruskin, Arnold, Newman, Pater, and Stevenson.

European History 102 is recommended to students taking this course.

139. **The Romantic Movement.** Two credit hours. First semester. Tu., Th., at 9. Prerequisite, English 131. Mr. Duncan.

A study of the rise and progress of the new poetic movement during the last years of the eighteenth and the earlier years of the nineteenth century. The poetry of Thomson, Cowper, Gray, Blake, Collins, and Burns.

European History 102 is recommended to students taking this course.

140. **Wordsworth and His Period.** Two credit hours. Second semester. Tu., Th., at 9. Prerequisite, English 131. Mr. Duncan.

The poetry of Wordsworth, Byron, Shelley, and Keats.

141. **Tennyson.** Three credit hours. First semester. M., W., F., at 11. Prerequisite, English 131. Mr. Taylor.

The whole of Tennyson will be read and criticized and consideration given to Fitzgerald, Arnold, Swineburne, Rossetti, and Morris.

142. **Browning.** Three credit hours. Second semester. M., W., F., at 11. Prerequisite, English 131. Mr. Taylor.

The whole of Browning will be read and criticized, with consideration of the poetry of George Meredith, and of their influence on recent literature.

For Advanced Undergraduates and Graduates.

151. **Old English.** Three credit hours. First semester. M., W., F., at 1. Mr. Duncan.

Old English prose and poetry as found in Bright's Anglo-Saxon Reader.

152. **Old and Middle English.** Three credit hours. Second semester. M., W., F., at 1. Mr. Duncan.

Beowulf, followed by selections illustrating the language and literature from the Norman Conquest to the time of Chaucer.

*153. **Chaucer.** Two credit hours. First semester. Tu., Th., at 2. Mr. McKnight.

Chaucer's principal works are read. Brief consideration is given to Chaucer's contemporaries, Gower, Wycliffe, Langland, and the author of Sir Gawayne and the Grene Knight.

*154. **English Fiction to Richardson.** Two credit hours. Second semester. Tu., Th., at 2. Mr. McKnight.

A rapid survey by means of modern versions, of early epic poetry and medieval romance, followed by a study of the types of novel in the sixteenth and seventeenth centuries.

155. **The Novel. Richardson to Scott.** Three credit hours. First semester. M., W., F., at 9. Mr. Taylor.

The history of the development of the novel in the period is given by lecture. Reading and criticism of Richardson, Fielding, Sterne, Jane Austen, and Scott.

156. **The Novel. Dickens to Meredith.** Three credit hours. Second semester. M., W., F., at 9. Mr. Taylor.

The history and development of the novel in this period is given by lecture. Reading and criticism of Dickens, Thackeray, George Eliot, and George Meredith.

157. **Versification.** Three credit hours. First semester. M., W., F., at 9. Mr. Graves.

*Not given in 1913-1914.

The theory of verse structure with a history of the principal English rhythms, and practise in verse composition.

158. The Short Story. Three credit hours. Second semester. M., W., F., at 9. Mr. Graves.

Lectures on structure and form in the short story, with class reports on assigned readings, and practise in story writing.

165. Early Popular Drama (including the Mysteries, Moralities and interludes). Two credit hours. First semester. Tu., Th., at 10. Mr. Denney.

Manly's Specimens of Pre-Shakespearean Drama is made the basis of this course. Outside study in the complete collection is also prescribed.

166. The Drama from 1580 to 1642. Two credit hours. Second semester. Tu., Th., at 10. Mr. Denney.

One or two plays of each of the principal contemporaries and immediate successors of Shakespeare; lectures on the history of the drama in this period.

167. Shakespeare. Histories and Tragedies. Three credit hours. First semester. M., W., F., at 11. Mr. Denney.

All of the plays are read with a view to complete criticism.

168. Shakespeare. Comedies and Romances. Three credit hours. Second semester. M., W., F., at 11. Mr. Denney.

All of the plays are read with a view to complete criticism.

169. Modern English Drama, 1660-1800. Two credit hours. First semester. Tu., Th., at 11. Mr. Cooper.

Representative plays of the principal dramatists are read; lectures on the history of the drama in this period.

170. Modern English Drama, Nineteenth Century. Two credit hours. Second semester. Tu., Th., at 11. Mr. Cooper.

The reading of representative plays is accompanied by lectures on the history of the drama in the nineteenth century. Some attention is paid to American plays.

Exclusively for Graduates

201. The Beginning of the Short Story. Two credit hours. First semester. W., 4 to 6. Mr. Graves.

An investigation of types of the short story in English from the Middle Ages to the present.

202. **The Lyric.** Two credit hours. Second semester. W., 4 to 6. Mr. Graves.

A study of the characteristics of lyrical poetry with a history of the lyric in English literature.

*203. **Piers Plowman.** Two credit hours. First semester. Mr. McKnight.

A study of the form and content of the three versions of the Vision Concerning Piers Plowman, and the pictures of contemporary life afforded. Attention is paid to the recent discussion concerning authorship.

*204. **The Author of Sir Gawayne and the Grene Knight.** Two credit hours. Second semester. Mr. McKnight.

An attempt to become acquainted with the personality of this anonymous writer and to arrive at a conclusion concerning his much debated purpose in his poem, *The Pearl*.

205. **History of Critical Theory.** Two credit hours. First semester. M., 4 to 6. Mr. Denney.

Saintsbury's *Loci Critici* is used as the basis of individual investigations.

206. **Problems in the Drama.** Two credit hours. Second semester. M., 4 to 6. Mr. Denney.

Lectures on the history of dramatic theory. Each student is assigned a specific problem for individual research.

207. **Meredith, Hardy, James.** Two credit hours. First semester. Tu., 4 to 6. Mr. Taylor.

208. **Poetry and the Drama Since 1880.** Two credit hours. Second semester. Tu., 4 to 6. Mr. Taylor.

209. **English and Scottish Popular Ballads.** Two credit hours. First semester. F., 4 to 6. Mr. Duncan.

210. **English Usage.** Two credit hours. Second semester. F., 4 to 6. Mr. Duncan.

219-220. **Discussion of Dissertations.** Two credit hours. The year. Mr. Denney, Mr. Taylor, Mr. McKnight, Mr. Graves.

*Not given in 1913-1914.

ENTOMOLOGY

(See Zoology and Entomology)

EUROPEAN HISTORY

(Office, Room 204 University Hall)

PROFESSOR SIEBERT, ASSOCIATE PROFESSOR MCNEAL, ASSISTANT PROFESSOR PERKINS

101. **Medieval History.** Three credit hours. First semester. M., W., F., at 8, 9, 11, 1, 2, and Tu., Th., Sat., at 9. Mr. Siebert, Mr. McNeal, Mr. Perkins.

102. **Modern History from 1500 A. D.** Three credit hours. Second semester. M., W., F., at 8, 9, 11, 1, 2, and Tu., Th., Sat., at 9. Mr. Siebert, Mr. McNeal, Mr. Perkins.

103-104. **History of England.** Three credit hours. The year. Tu., Th., F., at 10. Open to second, third and fourth year students without prerequisite. Mr. Perkins.

An outline course intended for all students wishing to obtain a general survey of the subject, also for those specializing in English Literature or American History, and for those preparing to teach history in secondary schools.

105. **History of Greece.** Three credit hours. First semester. M., W., F., at 11. Open to second, third and fourth year students without prerequisite. Mr. McNeal.

106. **History of Rome.** Three credit hours. Second semester. M., W., F., at 11. Open to second, third and fourth year students without prerequisite. Mr. McNeal.

107-108. **Medieval Civilization.** Two credit hours. The year. Tu., Th., at 11. Prerequisite, courses 101 and 102. Advanced students from other departments admitted without the prerequisite on consent of the instructor. Mr. McNeal.

(1) Political institutions of the Middle Ages: the feudal system, the organization of the church, the national monarchies; (2) Intellectual development; scholastic philosophy, sciences, the universities; (3) Culture of the Middle Ages: legends and traditions, native languages and literatures, art, customs of chivalry.

109. **The Age of the Renaissance, 1250 to 1500 A. D.** Two credit hours. First semester. Tu., Th., at 10. Prerequisite, courses 101 and 102. Mr. Siebert.

This course traces the rise of our modern civilization, treating of the revival of letters and art, the spread of education, the early developments of modern science, the geographical discoveries, and the political, social and ecclesiastical changes which occurred during the same period.

110. The Period of the Reformation. Two credit hours. Second semester. Tu., Th., at 10. Prerequisite, courses 101 and 102. Mr. Siebert.

Reformational movements from the time of the death of Dante (1321) to the Council of Trent (1562).

111. The French Revolutionary and Napoleonic Periods, 1789-1815. Three credit hours. First semester. M., W., F., at 1. Prerequisite, courses 101 and 102. Mr. Perkins.

112. Europe in the Nineteenth Century. Three credit hours. Second semester. M., W., F., at 1. Prerequisite courses 101 and 102. Mr. Perkins.

Especial emphasis on the past fifty years and the interpretation of recent events in Europe.

113-114. Constitutional History of England. Three credit hours. The year. M., W., F., at 9. Prerequisite, courses 101 and 102. Mr. Siebert.

Intended for students especially interested in the institutional side of English and American History, and in Political Science, and for those taking the Arts-Law course, or expecting to enter the law school.

115. Europe and Africa, India and Australia. Two credit hours. First semester. Tu., Th., at 9. Prerequisite, courses 101 and 102. Mr. Siebert.

116. Europe and Turkey. The Eastern Question. Two credit hours. Second semester. Tu., Th., at 9. Prerequisite, courses 101 and 102. Mr. Siebert.

***117. Northeastern Europe.** Two credit hours. First semester. Tu., Th., at 9. Prerequisite, courses 101 and 102. Mr. Siebert.

***118. Europe and Asia. The Far Eastern Question.** Two credit hours. Second semester. Tu., Th., at 9. Prerequisite, courses 101 and 102. Mr. Siebert.

*Not given in 1913-1914.

119-120. **History of Germany.** Two credit hours. The year. Tu., Th., at 10. Open to second, third and fourth year students without prerequisite. Mr. McNeal.

A general course in German History with special attention to the interests of the students of the German language or literature.

*121-122. **History of France.** Two credit hours. The year. Tu., Th., at 10. Open to second, third or fourth year students without prerequisite. Mr. McNeal.

A general course in French History since the formation of the French Monarchy in 987, but with special attention to the interests of the students of French language or literatures. A reading knowledge of French is not required, but is desirable.

Exclusively for Graduates.

203-204. **Seminar in Modern European History.** Two credit hours. The year. Open only by permission of instructor. Time to be arranged. Mr. Siebert.

201-202. **Seminar in Medieval History.** Reading of the sources of some period in the Middle Ages. Two credit hours. The year. Open only by permission of instructor. Time to be arranged. Mr. McNeal.

FRENCH

(See Romance Languages)

GEOLOGY

(Office, Room 1, Orton Hall)

PROFESSOR PROSSER, PROFESSOR BOWNOCKER, ASSISTANT PROFESSOR HILLS,
MR. MORSE, MISS MARK, MR. SCHROYER

For Undergraduates

101-102. **Physiography.** Three credit hours. The year. M., W., F., at 8, 9, or 1. Open to freshmen and sophomores only.

Three field trips are made Saturdays in each semester, each trip taking the place of a recitation. During January, February and March, the Monday or Saturday recitation is replaced by laboratory work, time to be arranged. Mr. Bownocker, Mr. Hills, Miss Mark, Mr. Schroyer.

*Not given in 1913-1914.

Physiographic features on the earth's surface; the ocean, and the atmosphere. Recitations, lectures, and assigned readings, illustrated with models and lantern views.

103. Inorganic Geology. Three credit hours. First semester. M., W., F., at 9. Mr. Bownocker.

Introductory course. Petrographical, structural and dynamical geology. Study of common minerals and rocks, and geological maps. The course is illustrated with lantern views, models and museum materials.

104. Historical Geology. Three credit hours. Second semester. M., W., F., at 9. Prerequisite, Geology 101 or 103. Mr. Prosser.

A general course in paleontological and stratigraphical geology, illustrated by lantern views, maps, and specimens. The development of organisms and the classification and distribution of the geological formations, especially those of Ohio, are considered. Every other week after the first of April there will be field trips on Saturday in place of the Friday lecture.

[Courses 101 or 103, and 104 are considered as forming a general course in geology which is required before advanced work in physiography, historical or inorganic geology.]

166. Petrography. Two credit hours. Second semester. Th., at 11; W., 2-4. Prerequisite, Geology 103, and Chemistry. Mr. Bownocker and Mr. Hills.

A study of hand specimens of igneous, metamorphic and sedimentary rocks. More than one-half of the time will be devoted to laboratory work.

For Advanced Undergraduates and Graduates.

105. Field Geology. Three to five credit hours. First semester. Time to be arranged. Lectures, assigned reading, field trips and laboratory work. Field trips generally on Saturdays while weather permits, laboratory work for the remainder of the semester. Prerequisite, Geology 101 or 103, and 104. Mr. Prosser.

Study of the geological formations readily accessible from Columbus, and identification of fossils characteristic of different formations. This course is intended to acquaint the student with the ordinary methods of field investigation, and involves

the collection and identification of specimens, the measurement of geological sections and the preparation of a report describing the region studied. Occasionally longer geological excursions will be arranged.

106. Glacial Geology. Three credit hours. Second semester. Time to be arranged. Prerequisite, Geology 101 or 103, and 104. Mr. Bownocker.

A study of the glacial geology of North America. The first half of the semester will be given to lectures, assigned readings and map work. The second half largely to field work and the preparation of reports, the field work being on Saturdays.

107-108. Invertebrate Paleontology. Two to five credit hours. The year. Laboratory open afternoons, 1 to 4, and on certain days in the morning. Prerequisite, Geology 101 or 103, and 104. Mr. Prosser.

Careful training in systematic classification which may be used in the philosophical study of the development of plant and animal life, or as a means of becoming acquainted with the fauna and flora that characterize the various geological formations. At first the student devotes some time to conchology, studying recent shells in which the characters used in classification are well preserved, and after this preliminary work, fossils are studied. Fossils afford the most reliable data for identifying and correlating geological formations, and the critical study of faunas is a field especially adapted to independent research. Laboratory, museum and field work.

109-110. Microscopical Petrography. Two to five credit hours. The year. Time to be arranged. Prerequisite, Chemistry, Mineralogy, and Geology 101 or 103, and 104. Mr. Bownocker.

Optical crystallography, with practical determination of rock forming minerals, macroscopically and microscopically. Study of the igneous rocks in the hand specimen and thin section. The preparation of thin sections.

111-112. Physiography of Central Ohio. Field and laboratory course. Three to five credit hours. The year. Time to be arranged. Prerequisite, Geology 101 or 103, and 104. Geology 111 may be taken the first semester, to be followed by 104. Prerequisite, 101-102. Mr. Hills.

Three field trips per week. During December, January and February, trips are replaced by work in wet laboratory and blackboard representation of topographic forms.

113-114. Areal Geology. Two to five credit hours. The year. Field work fall and spring, laboratory work in winter. Laboratory open afternoons, 1 to 4. Prerequisite, Geology 101 or 103, and 104; 105-106, and 107-108 for Paleozoic group, and 101 or 103, and 104, and 105-106 for Cenozoic group. Mr. Prosser and Mr. Hills.

Instruction in the methods of preparing geological maps and reports for both the Paleozoic and Cenozoic groups. Outcrops are traced in the field and a colored geological map is prepared, together with sections showing the geological structure.

115. Economic Resources of the United States. One credit hour. First semester. Th., at 1. Must be taken in conjunction with Geology 167. Prerequisite, Geology 101-102 or 103-104, and Economics 135-136. Mr. Bownocker.

141-142. Minor Investigations and Current Literature. Two to five credit hours. The year. Time to be arranged. A study of special topics and current literature in geology. Assigned readings, conferences, and reports. (a) **Historical Geology.** Prerequisite, Geology 101 or 103, and 104 required. Mr. Prosser. (b) **Inorganic Geology.** Prerequisite, Geology 167. Mr. Bownocker. (c) **Physiography.** Prerequisite, Geology 101 or 103, and 104. Mr. Hills.

167. Economic Geology. Three credit hours. First semester. M., W., F., at 8. Prerequisite, Geology 103, and 104. Mr. Bownocker.

The nature of ores, their classification and origin. The metallic ores of the United States, their distribution, abundance, modes of occurrence, and origin. The non-metals, coal, oil, gas, clay, lime, cement, building stones, etc. In the discussion of the non-metals, emphasis will be laid on the resources of Ohio.

For Graduates.

201-202. Advanced Historical Geology. Three to five credit hours. The year. Laboratory open afternoons, 1 to 4. Prerequisite, Geology 101 or 103, and 104, and 107-108. Mr. Prosser.

Advanced work in paleontology and stratigraphical geology.

203-204. Research Work. Three to five credit hours. The year. Prerequisite, preceding courses in inorganic or historical geology. Field, laboratory, and library study is offered along two lines. Outline of work and time will be arranged with individual students. (a) **Stratigraphy and Paleontology.** The investigations of some field problem in stratigraphy with laboratory and library study or of some special subject in paleontology. Mr. Prosser. (b) **Economic Geology.** The investigation of some field problem in petroleum, natural gas, coal, or salt. Mr. Bownocker.

GERMAN

(Offices, Rooms 317, 318, University Hall)

PROFESSOR EVANS, PROFESSOR EISENLOHR, ASSISTANT PROFESSORS THOMAS, BARROWS, LEWISOHN, BUSEY, MR. WHYTE AND MR. RUDWIN

Unless specially designated "the year," all courses may be taken by the semester. If a new course is to be elected, however, for the second semester, the consent of the instructor in charge must first be obtained.

For Undergraduates

101-102. Elementary German. Four credit hours. The year. Eight sections. M., Tu., Th., F., at 9, 10, 11, 1 or 2; Tu., W., Th., F., at 8 or 3. All instructors.

One section of 102 will be given the first semester, M., W., F., S., at 8. Also, one section of 101 will be given the second semester.

The essentials of grammar and the reading of easy German prose.

103. Intermediate German. Four credit hours. First semester. Tu., W., Th., F., at 8 or 3; M., Tu., Th., F., at 9, 10, 11, 1 or 2. Prerequisite, 101-102, or two entrance units. Not open to students who enter with four entrance units in German. Nine sections. All instructors.

Reading of narrative prose supplemented by discussions of syntax; prose composition.

104. Easy Classical Reading and Composition. Four credit hours. Second semester. Tu., W., Th., F., at 8 or 3; M., Tu., Th., F., at 9, 10, 11, 1 or 2. Prerequisite, course 103, or three entrance

units. Not open to students who enter with four entrance units. Six sections.

Reading of, (a) a classical drama supplemented by discussions and lectures on the structure of the drama, its characters, and its historical background; (b) other literature of the classical period, or of the nineteenth century; prose composition.

106. Science Reading. Four credit hours. Second semester. M., Tu., Th., F., at 9, 10, 3. Prerequisite, course 103, or three entrance units.

Rapid reading of technical literature. This is preceded or accompanied by drill on word formation, word compounds, sentence structure. The object of the course is to enable the student to read German technical literature.

107-108. Advanced German. Four credit hours. The year. M., Tu., Th., F., at 10. Modern and classical prose and verse. Oral and written practise. Open only to freshmen with four entrance units in German. Mr. Busey.

115-116. Classical and Modern Writers. Two credit hours. The year. Tu., Th., at 9. Selections from the eighteenth and nineteenth century writers; written and oral exercises. Miss Barrows.

117-118. Schiller. Introduction to Life and Works. Two credit hours. Tu., Th., at 10. First semester: Gedichte, Don Carlos, Braut von Messina. Second semester: Wallenstein, Dreissigjähriger Krieg. Miss Thomas.

119-120. Nineteenth Century Drama. Two credit hours. The year. Tu., Th., at 10. Selected dramas read and interpreted in class. The interpretation will take the form of simple lectures in German to be reproduced orally and in writing by the student. First semester: Selections from Kleist, Grillparzer, Heibel, Ludwig. Second semester: Selections from Wildenbruch, Sudermann, Hauptmann, Fulda. Mr. Lewisohn.

123-124. Nineteenth Century Lyric. Two credit hours. The year. M., F., at 10. Mr. Lewisohn.

The form and content of German lyrical poetry will be studied through intensive analysis of lyrics selected from the works of Goethe, Heine and the Romanticists, Lenau, Moericke, Geibel, Meyer, Storm and Liliencron. Lectures, exercises in German prosody and written reports.

131-132. Conversation and Prose Composition. Two credit hours. The year. Tu., Th., at 9 and 11. Prerequisite, consent of the instructor. Two sections. Mr. Busey, and —.

133-134. Conversation. Two credit hours. The class will meet four times a week. M., Tu., Th., F., at 9. Little outside preparation required. The number of students not to exceed 15.

Courses 115-134, not open to freshmen, require as prerequisite Course 104 or its equivalent. Course 115-116, offering a considerable amount of intensive oral and written work, is especially recommended for students desiring to take German as a major subject. Courses 117 to 124 are primarily reading courses. No student may elect more than two-year courses in the group 107 to 124. A combination of courses 131-132 or 133-134 with one of the courses 115 to 124 is advised.

Advanced Undergraduates and Graduates.

Prerequisite: At least one year course in the group 107 to 124 or the equivalent.

The attention of advanced students is called to the History of Germany (Course 119-120) offered by the Department of European History.

151-152. Goethe. Introduction to Life and Works. Three credit hours. The year. First semester: Selections from lyrics, earlier dramas and prose. Second semester: Faust. Mr. Evans.

***153-154. Survey of German Literature.** Three credit hours. The year. Lectures, interpretation of selected texts and parallel readings. First semester. From the beginnings to Lessing. Second semester: Classical period and nineteenth century. M., W., F., at 11. Mr. Evans.

***155-156. Lessing. Introduction to Life and Works.** Two credit hours. The year. First semester: Dramas. Second semester: Critical writings. Tu., Th., at 11. Mr. Eisenlohr.

157. Volkslied. Two credit hours. First semester. Tu., Th., at 11. Studies in the origin and growth of the German Folksong with special reference to German life and culture. Mr. Eisenlohr.

*Not given in 1913-1914.

158. *Volksbücher, Märchen und Sagen*. Two credit hours. Second semester. Tu., Th., at 11. Studies in popular and legendary literature. Mr. Eisenlohr.

159. Heine. *Introduction to Life and Works*. Two credit hours. First semester. T., Th., at 8. Miss Barrows.

160. Hebbel. *Introduction to Life and Works*. Two credit hours. Second semester. T., Th., at 8. Miss Barrows.

*161-162. *Romantic Writers*. Two credit hours. The year. Lectures on the Romantic Movement with the reading of representative texts. First semester: Selections from Novalis, Tieck, Arnim. Second semester: Selections from Eichendorff, Uhland, Hoffmann. Miss Thomas.

171-172. *Advanced Prose Composition*. Two credit hours. The year. Tu., Th., at 2. Open only on consent of instructor. Mr. Eisenlohr.

173. *The Teaching of German*. Two credit hours. First semester. Tu., Th., at 3. A critical study of the methods of teaching modern foreign languages. Lectures, reports and practise teaching. Open only to seniors and graduate students. Mr. Evans.

174. *Grammar Review*. Two credit hours. Second semester. Tu., Th., at 3. A detailed discussion of theoretical grammar from the standpoint of the high school teacher. Open only to seniors and graduate students. Mr. Evans.

*175. *Phonetics*. Two credit hours. First semester. Tu., Th., at 8. Alternates with 159. A study of speech sounds with special reference to German and English. Miss Barrows.

*176. *Interpretative Reading*. Two credit hours. Second semester. Tu., Th., at 8. Alternates with 160. Practice in reading narrative and dramatic prose and verse with the memorizing of certain selections. Not open to graduate students for credit. Miss Barrows.

177. *Middle High German*. Two credit hours. First semester. M., W., at 3. Introductory course. Grammar and selected readings. Mr. Busey.

*Not given in 1913-1914.

178. **History of the German Language.** Two credit hours. Second semester. M., W., at 3. Lectures and illustrative readings, with special reference to the needs of those intending to teach. Mr. Busey.

Exclusively for Graduates

201-202. **Advanced Middle High German.** Two credit hours. The year. A critical study of German literature in the 12th and 13th centuries. Mr. Eisenlohr.

203. **Gothic.** Two credit hours. First semester. A philological and critical study of selections from the Bible of Ulphilas. Miss Thomas.

204. **Old High German.** Two credit hours. Second semester. Studies in the German language and literature of the period. Miss Thomas.

*207-208. **The Literature of the Empire (1870-1895).** Two credit hours. The year. The rise and decline of the naturalistic school and the rise of neo-romanticism in connection with the parallel movements in philosophy and in French and English literature. Lectures, readings and special reports. Mr. Lewisoohn.

215-216. **Seminar in German Literature.** Two credit hours. The year. T., 4 to 6. The aim is to train graduate students in the scientific methods of the historical and critical study of literature. The course will deal in alternate years with the historical development of the German drama up to Lessing and with the classical period. 1911-1912: History of the German Drama from the Renaissance to Lessing. 1912-1913: Schiller. 1913-1914: The Medieval Drama in Germany. Mr. Evans.

GREEK LANGUAGE AND LITERATURE

(Office, Room 307, University Hall)

PROFESSORS SMITH AND WODGMAN

101-102. **Elementary Greek.** Four credit hours. The year. M., Tu., Th., F., at 10.

105. **Xenophon:** The Memorabilia of Socrates; exercises in Greek Prose. **Herodotus:** selections; with studies in Greek

*Not given in 1913-1914.

History. Four credit hours. First semester. M., Tu., Th., F., at 11. Prerequisite, course 101-102. Mr. Smith.

106. Herodotus, continued. Homer: Odyssey, selections from Books I-IX. Four credit hours. Second semester. M., Tu., Th., F., at 11. Prerequisite, course 105. Mr. Smith.

107. Lysias: Eight Orations; with studies in Attic Procedure. Plato: Apology of Socrates and Crito. Three credit hours. First semester. Tu., Th., F., at 10. Prerequisite, courses 105-106. Mr. Smith.

108. Plato: Crito and Phaedo. Homer: Iliad, selections. Three credit hours. Second semester. Tu., Th., F., at 10. Prerequisite, courses 105-107. Mr. Smith.

109. Thucydides: Book I or Book VII. Demosthenes: Olynthiacs. Two credit hours. First semester. Prerequisite, courses 105-106. Mr. Hodgman.

110. Demosthenes: Philippics. Theocritus: selections. Two credit hours. Second semester. Prerequisite, courses 105-108. Mr. Hodgman.

111. Attic Drama. Euripides: Alcestis Sophocles: Oedipus Tyrannus; with lectures on Scenic Antiquities. Two credit hours. First semester. Prerequisite, Courses 105-108.

112. Attic Drama. Continuation of course 111; two plays. Two credit hours. Second semester. Mr. Hodgman.

113. Epic Poetry: selections. Aristophanes: The Birds. Two credit hours. First semester. Prerequisite, courses 105-108. Mr. Smith.

114. Aristophanes: The Clouds. Post-Classical Greek: Lucian. Two credit hours. Second semester. Prerequisite, courses 105-108. Mr. Smith.

115. Ancient Art. Lectures on Architecture and Sculpture. Two credit hours. First semester. Tu., Th., at 1. No prerequisite course. Not open to freshmen. Mr. Smith.

116. Ancient Art. Continuation of course 115. Two credit hours. Second semester. Tu., Th., at 1. Mr. Smith.

*117. Mediaeval Art. Lectures on Architecture and Sculpture. Two credit hours. First semester. Tu., Th., at 1. No prerequisite course. Not open to freshmen. Mr. Smith.

*Not given in 1913-1914.

***118. Mediaeval Art.** Lectures on Sculpture and Painting. Two credit hours. Second semester. Tu., Th., at 1. Not open to freshmen. Mr. Smith.

Courses 115-116 are given biennially, alternating with courses 117, 118. They will not be given again until 1914-1915.

119. Readings in Greek Philosophy. Two credit hours. First semester. W., F., at 2. Prerequisite, courses 105-108. Mr. Smith.

120. Studies in New Testament Greek. Two credit hours. Second semester. W., F., at 2. Prerequisite, courses 105-108. Mr. Smith.

121-122. Historical Grammar. One credit hour. The year. Prerequisite, courses 105-106. Mr. Hodgman.

123. Life and Literature of the Greeks. Lectures on Private Life, and on Epic and Lyric Poetry. Two credit hours. First semester. Tu., Th., at 2. No prerequisite course. Not open to freshmen. Mr. Smith.

124. History of Greek Literature. Continuation of course 123. Lectures on Dramatic Poets, Historians, Philosophers, and Orators. Two credit hours. Second semester. Tu., Th., at 2. Mr. Smith.

Courses 123 and 124 are open to students without a knowledge of Greek.

LATIN

(Office, Room 307, University Hall)

PROFESSORS DERBY, HODGMAN AND ELDEN, AND MR. MURPHY

147. Beginning Latin, Grammar and exercises. Four credit hours. First semester. Tu., W., Th., F., at 8.

This course is offered to students who have not studied Latin, but whose ability and definite purpose enable them to do in one year, in college, the first two years of the usual course in preparatory Latin.

148. Beginning Latin, Caesar, four books, and exercises. Four credit hours. Second semester. Prerequisite, Course A. Tu., W., Th., F., at 8.

101. Cicero. De Senectute and De Amicitia; Horace. Odes. Four credit hours. First semester. M., Tu., Th., F., at 10 or

11; Tu., W., Th., F., at 2. Prerequisite, four units of preparatory Latin. Mr. Hodgman, Mr. Elden and Mr. Murphy.

102. **Horace: Odes, or Ovid: Metamorphoses; Livy or Sallust, or Prose Composition.** Four credit hours. Second semester. M., Tu., Th., F., at 10 or 11; Tu., W., Th., F., at 2. Prerequisite, course 101. Mr. Hodgman, Mr. Elden and Mr. Murphy.

103. **Pliny or Cicero.** Selected letters; **Catullus or Tacitus.** Three credit hours. First semester. M., W., F., at 9 and 2. Prerequisites, courses 101-102. Mr. Hodgman and Mr. Elden.

104. **Latin Comedy. Plautus and Terence,** three plays. Three credit hours. Second semester. M., W., F., at 9 and 2. Prerequisite, course 103. Mr. Hodgman and Mr. Elden.

105. **Roman Satire.** Horace, Juvenal and Persius. Two credit hours. First semester. Tu., Th., at 9. Prerequisite, courses 101-104. Mr. Elden.

106. **The Roman Novel. Petronius; Seneca; Selections.** Two credit hours. Second semester. Tu., Th., at 9. Prerequisite, courses 101 to 104. Mr. Hodgman.

Courses 105-106 are important for Juniors and Seniors.

*107-108. **Roman Private Life.** One credit hour. The year. M., at 2. Prerequisite, courses 101-102. Mr. Derby.

*109-110. **Quiz and Review.** The year. One credit hour.

This course will discuss, chiefly by lecture and report, the elements of subjects which are comprised under the general head of Latin Philology and are of value to teachers of Latin.

111-112. **Roman and Comparative Literature.** One credit hour. The year. Th., at 3. Mr. Elden.

Course 111-112 consists of lectures and assigned reading on Roman Literature and its influence on modern writers. Open and useful not only to students of Latin, but also to those without a knowledge of Latin, who desire to become acquainted with the broader outlines of Roman Literature and its influence upon the literatures of France, Germany and England. This course is given every year.

*Not given in 1913-1914.

113-114. **Pro-Seminar.** Three credit hours. The year. M., W., F., at 9. Mr. Elden.

115-116. **Latin Prose Composition.** Three credit hours. The year. M., Tu., F., at 10. Prerequisite, course 101-104. Mr. Hodgman.

For Advanced Undergraduates and Graduates

Before entering upon graduate work in this department, the student should have had, in addition to the usual preparatory course of four years, not less than three years of collegiate study of Latin.

The plan of study for the second degree (A. M.) with Latin as the major or minor subject, should not include more than two of the courses 107 to 116; as a rule, these courses should be taken by undergraduates.

The ability to use French or German works of reference, a good knowledge of ancient history and of English literature will be found especially useful. Greek 115-116 (Greek Art), and Greek 117-118 (Mediaeval Art), are recommended.

Lines of reading and investigation, supplementary to the regular graduate courses and necessary to a symmetrical knowledge of the language, literature, and life of the Roman people, will be required according to the needs of the individual student.

123-124. **Historical Latin Grammar.** Sounds and inflections. One credit hour. The year. Th., at 10. Prerequisite, courses 101-104. Mr. Hodgman.

This course treats of pronunciation, ablaut, vowel and consonant changes—especially vowel weakening—accent, inflection and other similar topics essential to the understanding of the principles which govern the development of the Latin language.

125-126. **Historical Latin Grammar.** Syntax. One credit hour. The year. Th., at 2. Prerequisite, courses 101-104. Mr. Elden.

Lectures on the problems connected with the origin and developments of certain constructions in Latin syntax; a treatment along historical lines of the syntactic uses of the cases, modes and tenses.

Courses 123-126 are deemed essential for those who make Latin a major or minor subject of study in graduate work, and are recommended for advanced undergraduate study.

119-120. Advanced Latin Composition. One or two credit hours. The year. Time to be arranged. Prerequisite, Courses 115-116. Mr. Hodgman.

Translation of English narrative and study of Latin idioms.

121. Roman Prose Authors: Cicero, Seneca, Quintilian, Suetonius, or Tacitus. Two to five credit hours. First semester. Time to be arranged.

122. Roman Poets: Plautus, Terence, Lucretius, Vergil, Ovid, Lucan, Statius, Martial, or Silius Italicus. Two to five credit hours. Second semester. Time to be arranged.

Courses 121-122 are designed to give an opportunity to read a considerable portion of the author chosen, and are open to advanced students only. At the option of the instructor, the study of one author may be continued during the year, or other authors used in either semester. Mr. Derby, Mr. Hodgman and Mr. Elden.

For Graduates

201-202. Roman Religion. One or two credit hours. The year. Time to be arranged. Mr. Hodgman.

Lectures and Fasti of Ovid.

***203-204. Latin Literature.** One credit hour. The year. Mr. Elden.

See courses 111-112.

***207-208. Seminar.** Two credit hours. The year.

***211-212. Latin Philology.** One credit hour. The year.

213-214. Elements of Epigraphy and Paleography. Two or three hours. The year. Time to be arranged. Mr. Derby.

***215-216. Roman Antiquities and Archaeology.** One to three credit hours. The year. Time to be arranged. Mr. Derby.

Special topics related to the subjects named above may be pursued under supervision of the instructor, and graduate students, with consent of the department, may earn an additional credit hour in any course primarily for graduates. Such lines

*Not given in 1913-1914.

of reading and individual investigations will usually be supplementary to the regular graduate courses.

MATHEMATICS

(Office, Room 314, University Hall)

PROFESSORS BOHANNAN, MCCOARD, SWARTZEL, KUHN, ASSOCIATE PROFESSORS ARNOLD, RASOR, ASSISTANT PROFESSORS PRESTON, BAREIS, MORRIS AND WEST, MISS RICKARD

Students intending to make Mathematics a specialty are advised to secure a reading knowledge of French and German and Italian by the beginning of the junior year, and to take some courses in Philosophy, particularly logic, in the junior and senior years.

105. College Algebra and Trigonometry. Four credit hours. First semester. M., T., Th., F., at 10. Mr. Bohannon, Mr. West.

106. Plane Trigonometry and Analytical Geometry. Four credit hours. Second semester. M., T., Th., F., at 10. Mr. Bohannon, Mr. West.

121. College Algebra and Trigonometry. Three credit hours. First semester. M., W., F., at 9 or 1; T., Th., S., at 9. Mr. McCoard, Mr. Swartzel, Mr. Kuhn.

122. Plane Trigonometry and Analytical Geometry. Three credit hours. Second semester. M., W., F., at 9 or 1; T., Th., S., at 9. Mr. McCoard, Mr. Swartzel, Mr. Kuhn.

127-128. Calculus. Three credit hours. The year. M., W., F., at 9. Prerequisite, Mathematics 105-106 or 121, 122, or 131-132. Mr. McCoard.

129-130. Mathematics of Statistics, Finance and Insurance. Three credit hours. The year. M., W., F., at 11. Prerequisite, Mathematics 106 or 122. Mr. West.

An introductory course in the mathematical principals of Statistical Methods, Interest and Life Insurance, together with such practical problems in investments, loans, etc., as may be of value to the general student.

The following subjects are considered: averages, graphic representation of statistical data, graduation and curve fitting, correlation, etc.; compound interest and discount, rate of interest, interest tables, sinking funds, installment loans, depre-

clation, valuation and amortization of securities, mortality tables, annuities, calculation of premiums, reserves and valuation, dividends, classes of policies and policy conditions, options of settlement, etc.

131. College Algebra and Trigonometry. Five credit hours. First semester. M., Tu., W., Th., F., at 8, 9, 11, 1 or 2. Second semester. M., Tu., W., Th., F., at 8 or 9. All instructors.

132. Plane Trigonometry and Analytical Geometry. Five credit hours. First semester. M., Tu., W., Th., F., at 8. Second semester. M., Tu., W., Th., F., at 8, 9, 11, 1, or 2. All instructors.

141. Calculus. Five credit hours. First semester. M., Tu., W., Th., F., at 8, 9, or 11. Second semester. M., Tu., W., Th., F., at 8 or 9. Prerequisite, Mathematics 106 or 122 or 132.. Mr. Bohannon, Mr. McCoard, Mr. Swartzel, Mr. Kuhn, Mr. Arnold, Mr. Rasor, Mr. Morris, Mr. West.

142. Calculus. Five credit hours. Prerequisite, Mathematics 141. First semester. M., Tu., W., Th., F., at 8. Second semester. M., Tu., W., Th., F., at 8, 9, or 11. Mr. Bohannon, Mr. McCoard, Mr. Swartzel, Mr. Kuhn, Mr. Arnold, Mr. Rasor, Mr. Morris and Mr. West.

For Advanced Undergraduates and Graduates.

Prerequisite, Differential and Integral Calculus.

163-164. Plane and Solid Analytical Geometry. Three credit hours. The year. M., W., F., at 8. Mr. Morris.

***165-166. Advanced Calculus.** Three credit hours. The year.

167-168. Differential Equations.. Three credit hours. The year. M., Tu., Th., at 10. Mr. Rasor.

***171-172. Projective Geometry.** Three credit hours. The year.

173-174. Modern Higher Algebra. Three credit hours. The year. Mr., W., F., at 11. Mr. Kuhn.

*Not given in 1913-1914.

For Graduates.

Prerequisite, the permission of the instructor in charge.

201-202 (d). Theory of Functions of a Complex Variable. Three credit hours. The year. M., W., F., at 11. Mr. Bohannon.

201 (g). Fourier's Series and Spherical Harmonics. Three credit hours. First semester. M., Tu., Th., at 10. Mr. Swartzel.

202 (y). Vector Analysis and its Applications. Three credit hours. Second semester. M., Tu., Th., at 10. Mr. Swartzel.

If there is sufficient demand, other courses for advanced undergraduates and graduates will be offered, from the following subjects: Groups, Invariants, Projective Geometry, Function Theory, Number Theory, Infinite Series and Products, History, Statistics.

MECHANICS

(Office, Room 233, Lord Hall)

PROFESSOR J. E. BOYD, PROFESSOR CODDINGTON, MR. NEILAN

101. Statics, Strength of Materials.. Five credit hours. First semester. Daily at 8, 9 or 11. Prerequisite, Mathematics 141-142.

102. Strength of Materials, Kinetics and Hydraulics. Five credit hours. Second semester. Daily at 8, 9 or 11. Prerequisite, Mechanics 101.

104. Strength of Materials. Two credit hours. M., F., at 10. Second semester. Prerequisite, Mechanics, 101. Mr. Boyd.

105-106. Advanced Theoretical Mechanics. Three credit hours. The year. For graduates and advanced undergraduates. Prerequisite, Mechanics 102 and Differential Equations.

MILITARY SCIENCE AND TACTICS

(Office, The Armory)

CAPTAIN GEORGE L. CONVERSE, U. S. A., RETIRED

In accordance with the Morrill Act, passed in 1862, under which the University was established, military instruction must be included in the curriculum. The Board of Trustees, therefore, requires all male students, unless excused by the Military and Gymnasium Board, to drill during two years. This work is under an officer of the regular army, detailed for the purpose.

The Military Department is open during five days each week throughout the year.

Equipment

The equipment of the Military Department comprises 1300 standard U. S. magazine rifles, with belts, bayonets and accoutrements, fifty-one regulation infantry officers' sabres and belts, twenty-five cadet swords and belts, a stand of regimental colors, with markers, guidons, etc. The target practice equipment comprises six Springfield gallery rifles and seven Winder-model Winchester gallery rifles, five targets for 100, 200 and 300 yards, and five Winder-model targets for long range. The band comprises sixty pieces, partly supplied by the University and partly owned by the members.

The office is equipped for recording the attendance and performance of each cadet in drill, target practice and classroom work.

Organization

Cadet regiment is organized into four battalions of four or three companies each, a band, and trumpet corps. Each battalion has its own staff officers. The total number of men under arms averages about 1200 at present. Service in the band is credited as military service. The appointment of cadet officers during the second year of service is for excellence in their work. These officers may continue to serve during the third and fourth years if they wish, and if they do, are given compensation at the end of each year's satisfactory service, amounting to not less than twenty-five (\$25.00) dollars for lieutenants, thirty (\$30.00) dollars for captains, and larger sums for officers of higher ranks. Members of the band who volunteer for service after having completed their two years required duty, are also paid at the rate of \$20.00 per year, and receive instruction during the four winter months by a competent band-master.

Subjects in Which Instruction is Offered

1. **Military Drill.** One credit hour. M., W., F., at 11, Th., at 4; M., Tu., W., Th., at 4. Five months, three hours per week (divided between fall and spring) military drill; four months, three hours per week (winter) of class-room instruction in Drill Regulations. Target practice at any open hour during

the afternoons of the winter months, at 100, 200 and 300 yards. Lecture, one hour weekly, by the President, upon topics of common interest to the student body.

2. Military Drill. One credit hour. M., W., F., at 11, Th., at 4; M., Tu., W., Th., at 4. Five months, three hours per week (divided between fall and spring), in extended order and guard duty. Four months, three hours per week (winter) of class-room instruction in Articles of War, Guard Manual and Field Service Regulations. Target practise, at any open hour of the afternoon of the winter months, at 500, 600 and 800 yards.

PHILOSOPHY

(Office, Room 321, University Hall)

PROFESSORS LEIGHTON, AND DAVIES

For Undergraduates

101. Introduction to Philosophy. Three credit hours. Second semester. M., W., F., at 9 and 1. Open to first year students. Mr. Leighton and Mr. Davies.

The meaning and scope of philosophy, its typical problems, its relations to the special sciences, morality, art, the state, and religion.

102. Introductory Logic. Three credit hours. First semester. M., W., F., at 9 and 1. Open to first-year students. Mr. Leighton and Mr. Davies.

A practise course in the methods of correct thinking.

105-106. Elementary Ethics. Three credit hours. The year. Not open to first year students. M., W., F., at 2. Mr. Davies.

This course is an introduction to the study of the moral life as it appears in the individual and in society.

115-116. Aesthetics. Two credit hours. The year. Open to first year students. Tu., Th., at 2. Mr. Davies.

An elementary study of the beautiful in nature and in art.

151-152. History of Philosophy. Three credit hours. The year. Not open to first year students. M., W., F., at 11. Mr. Leighton.

In this course the history of reflective thinking on the problems of human life and the world-order will be traced in outline, from the dawn of Greek speculation to the rise of the modern

doctrine of evolution. Constant regard will be had to the relation of philosophy to social, literary, and scientific movements.

***155-156. History of Christian Philosophy.** Three credit hours. The year. Open to first year students. M., W., F., at 3. Mr. Davies.

A study of the source material in the New Testament and of the stages through which this material was developed into the scholastic systems of the Middle Ages.

For Advanced Undergraduates and Graduates

***111-112. Advanced Ethics.** Two credit hours. The year Tu., Th., at 3. Prerequisite, one year in philosophy, psychology, or sociology, and one year in a related subject. Mr. Davies.

A course in the origin and development of morality, in the light of our more recent knowledge in anthropology, sociology, and psychology. Text: Davies's *The Moral Life; A Study in Genetic Ethics*.

113-114. Advanced Logic. Three credit hours. The year. Tu., Th., Sat., at 11. Prerequisite, Philosophy 102, and one year in Psychology, Sociology, Mathematics, or Natural Science. Mr. Davies.

A systematic study of the conditions, criteria, nature and degrees of truth.

119. Philosophy of Religion. Three credit hours. First semester. T., Th., F., at 10. Prerequisite, one year's work in Philosophy, Psychology, or History of Religion. Mr. Leighton.

An account of the actual nature of religion, as shown in its chief historical and psychological phenomena, and an interpretation of its significance for culture and the truth of its leading conceptions.

***121-122. Metaphysics.** Two credit hours. The years. Tu., Th., at 2. Prerequisite, at least one year's work in Philosophy and in Psychology or a natural science. Mr. Leighton.

This course is a systematic discussion of the fundamental problems of theoretical philosophy; the meaning of truth and its relations to reality, the philosophy of nature, and of the human self, the problems of freedom, evil, immortality, and theism.

*Not given in 1913-1914.

***127. British Philosophy from Bacon to Hume.** Two credit hours. First semester. Tu., Th., at 1. Prerequisite, Philosophy 151-152, and an additional year in Philosophy, Psychology, or a related subject. Mr. Davies.

An historical course, covering the period of British Empiricism.

***128. Continental Philosophy for Descartes to Leibnitz.** Two credit hours. Second semester. Tu., Th., at 1. Prerequisite, the same as for Philosophy 127. Mr. Davies.

An historical course, covering the period of continental rationalism.

***129-130. The Humanistic Movement.** Three credit hours. The year. M., W., F., at 2. Prerequisite, two years in Philosophy, or Psychology, or one year in Philosophy and one year in a related subject. Mr. Davies.

Traces the problem of man in the history of culture, and studies the meaning of this problem for a philosophy of life.

***131-132. Philosophy of Values.** Three credit hours. The year. Prerequisite, one year in Philosophy, Psychology, or Economics and Sociology and one year in a related subject. Mr. Davies.

A study of the foundations of our economic, social, ethical, aesthetical and religious judgments, and of the nature of the objects of these judgments.

***137. The Philosophy of Kant.** Two credit hours. First semester. Tu., Th., at 3. Prerequisite, two years' work including Philosophy 151-152. Mr. Leighton.

A study of the system of Kant in its historical relations and present significance.

***138. The Philosophy of Hegel.** Two credit hours. Second semester. Tu., Th., at 3. Prerequisite, the same as for Course 137, which should precede this course. Mr. Leighton.

A study of Hegel's system in its historical relations, with an estimate of its present value.

142. The Main Currents of Nineteenth Century Thought. Three credit hours. Second semester. Tu., Th., F., at 10. Prerequisite, one year's work in Philosophy, Psychology, or Sociol-

*Not given in 1913-1914.

ogy, or one year's work in the history of Nineteenth Century English, French, or German literature, or one year's work in Biology. Mr. Leighton.

A non-technical account and estimate of the chief formative influences in the reflective life of the nineteenth century. Intended for students of literature, science, and social movements.

Exclusively for Graduates

201-202. Graduate Seminars. Two to five credit hours. The year. Opportunities for research, depending on the previous training and special interests of individual students, will be afforded in (a) The History of Philosophy, (b) Logic and the Theory of the Sciences, (c) Metaphysics, (d) Ethics, and (e) The Philosophy of Religion. Mr. Leighton and Mr. Davies.

***205-206. The Philosophy of Mind.** Two credit hours. The year. Prerequisite, one year's work in Philosophy and Psychology. Mr. Davies.

A study of the problems growing out of the nature of mind and its place in history and the material universe.

207-208. Contemporary Philosophical Issues. Two to three credit hours. The year. Prerequisite, two years in Philosophy and Psychology, including either Philosophy 151-152, 127-128, or 137-138. Mr. Leighton.

An expository and critical discussion of recent pragmatism, humanism, realism, pluralism, and personal idealism. For 1913-1914—The Philosophy of Bergson.

PHYSICAL EDUCATION

DR. H. S. WINGERT, DIRECTOR

The work in Physical Education for men and women is conducted under the direct supervision of the Professor of Physical Education, who is a graduate physician. For the men's work he has two assistants and twenty student aids, who are selected each year from those who show proficiency in their work. For the women's work there is an associate professor, who is a graduate physician. She has a student assistant and twenty aids, who are chosen because of their proficiency.

*Not given in 1913-1914.

The main floor of the gymnasium (80x150 feet) is well equipped with modern gymnastic apparatus. It is used by the women in the forenoon, while the men exercise in the gymnasium on the first floor. In the afternoon the main floor is used exclusively by the men for class work, athletics, basketball and other recreative games.

(A) FOR MEN.

(The Gymnasium)

PROFESSOR WINGERT, MR. OHLSON, MR. BARTHOLOMEW

1. Physical Education. One credit hour. Two hours per week. The year. Required of all first-year students in this college. M., Tu., W., Th., F., 9, 10, 11 or 2 or 3; F., 4. Any two days a week. This course consists of (a) Lectures on personal hygiene and physiology of exercise one hour per week, first semester, (b) Corrective: A graded course of freehand exercise, stretching, relaxing, stimulating, exercise with light hand apparatus for the relief and correction of slight body defects, deformities, improper carriage, etc. (c) Educative: Graded progressive exercise on the apparatus and mats to promote muscular tone, vigor, vitality, endurance. (d) Recreative: Gymnasium games, mental relaxation, non-competitive exercises.

A thorough physical examination is made of each student at the opening and closing of the college year. Physical defects, abnormalities, and weaknesses are noted, and judicious, healthful exercise is prescribed to fit the student's individual needs.

2. Advanced Exercises. Elective. (a) Advanced exercises on the apparatus and mats. (b) Combative exercises—boxing, fencing, wrestling. (c) Recreative—football, baseball, basketball, tennis, track and field sport, cross-country running. etc. (d) Swimming—a good pool is provided for this exercise. Special hours are arranged for those electing the above exercises and credit given in regular course.

*Not given in 1913-1914.

(B) FOR WOMEN.

(The Gymnasium)

DR. LITTLEJOHN, MISS SAUER

1. **Physical Education.** One credit hour. Four hours per week during the first year of a student's residence. M., Tu., Th., F., at 9 or 10. (a) Lectures on hygiene and purpose of different kinds of physical exercises, four hours per week, first two weeks of first semester, first week of second semester. (b) Practical work in gymnasium, as follows: (1) Corrective work; exercises for correction of faulty position of different parts of body; for development of chest, etc. (2) Educative work; exercises to develop co-ordination of groups of muscles, accuracy of movement, to impart grace and beauty and a ready expression of thought in physical movements. (3) Recreative: classic dancing, and rhythmic movements, gymnastic games, and relaxing exercises. (4) Athletics (elective): carefully supervised basketball, volley ball, running, swimming, etc., for those who desire it. A physical examination is made by the director of every woman entering this course before she can begin the gymnasium work, and, if necessary, special work will be prescribed to meet her physical needs. A second examination is made at the close of each college year.

2. **Physical Education.** One credit hour. The year. Four hours per week during the second year of a student's residence. M., Tu., Th., F., at 11; W., at 9 or 11.

3. **Physical Education.** Three credit hours for the year's work. Lectures Tues. and Thurs. at 1; practice Mon. and Fri. at 1; Thurs. at 6 p. m.

Lectures discuss Anthropometry, Physical Diagnosis, Kinesiology, different systems of Physical Training, and methods of teaching.

Recreation periods for all classes, Monday and Thursday evenings at 7 o'clock. Basketball, indoor hockey, volley ball, running, folk dancing, etc.

PHYSICS

(Office, Room 24, Physics Hall)

PROFESSORS COLE, EARHART, BLAKE, BARNETT, ASSISTANT PROFESSORS
SHEARD AND SMITH, MR. HEIL

103-104. General Physics. Four credit hours. The year. Recitations and lectures, Tu., Th., F., at 8, and laboratory W., 2 to 4. A non-mathematical course for students who have no entrance credits in physics. Mr. Earhart.

105-106. General Physics. Four credit hours. The year. Lectures, M., W., at 8 or 2, and laboratory Tu., Th., 8 to 10, or Th., F., 2 to 4. Prerequisite, entrance credit in physics. Mr. Blake.

111-112. General Physics. Three credit hours. Two lectures, one recitation and one two-hour laboratory period. First semester, Mechanics and Heat; second semester, Electricity and Light. Prerequisites, Preparatory Physics and Mathematics 132. Lectures, Mr. Cole; laboratory, Mr. Sheard; recitation, Mr. Cole and Mr. Earhart, Mr. Sheard and Mr. Smith and Mr. Heil.

115-116. Physics Problems. Two credit hours. The year. Two recitations, covering problems in mechanics and heat, the first semester, and electricity and light the second semester. Prerequisites, Mathematics 132 and a year's work in college physics. Mr. Earhart, Mr. Sheard, Mr. Smith and Mr. Heil.

121-122. Laboratory. Three to five credit hours. The year. M., Tu., W., 1 to 4. Prerequisite, Physics 103-104, or 105-106. Mr. Cole.

For Advanced Undergraduates and Graduates.

123-124. Advanced Laboratory. Three to five credit hours. The year. M., Tu., W., 1 to 4. Prerequisite, Physics 121-122. Mr. Cole.

***141-142. Advanced Mechanics and Molecular Physics.** Three credit hours. The year. Tu., W., Th., 1 to 4. Prerequisite, Physics 103-104, or 105-106, and Mathematics 141-142, or 127-128. First semester, Mechanics, Mr. Blake; second semester, Molecular Physics and Heat, Mr. Earhart.

This course alternates with 143-144.

*Not given in 1913-1914.

143-144. Advanced Light and Electricity. Three credit hours. The year. Prerequisite, Physics 103-104 or 105-106, and Mathematics 141-142 or 127-128. First semester, Light, Mr. Sheard; second semester, Electricity and Magnetism, Mr. Earhart.

This course alternates with 141-142.

Courses 141-142 and 143-144 together constitute a two-year cycle, moderately advanced, covering the whole subject of Physics.

145-146. Physical Seminar. One credit hour. The year. M., at 4. Prerequisite, two years of college work in physics or one year in physics and one in mathematics or chemistry. Mr. Earhart.

***169-170. Theoretical Physics.** An advanced course in Light. Two credit hours. The year. Prerequisite, Physics 105-106, and Mathematics 141-142, or equivalents. Mr. Sheard.

127-128. The Theory and Practise of Electrical Measurements. Three to five credit hours. The year. Prerequisites, Physics 105-106, or equivalent; a course in Electrical Measurement, and Mathematics 141-142, or equivalent. Mr. Barnett.

Exclusively for Graduates.

201-202. Research Laboratory. Three to five credit hours. The year. Prerequisites, two years' laboratory work in physics. Mr. Cole, Mr. Earhart, Mr. Blake, Mr. Barnett, Mr. Sheard and Mr. Smith.

***203-204. Theoretical Mechanics.** Three credit hours. The year. Prerequisites, Physics 105-106, and Mathematics 141-142, or equivalents. Mr. Blake.

205-206. Thermodynamics and Electrolytic Conduction. Two credit hours. The year. Prerequisites, Physics 105-106, and Mathematics 141-142, or equivalents. Mr. Smith.

***207-208. Theory of Electricity and Magnetism.** Three credit hours. The year. Prerequisites, Physics 105-106, and Mathematics 141-142, or equivalents. Mr. Smith.

Courses 203-204, 205-206, 207-208, and 169-170 together form an advanced two-year cycle, covering the whole ground of Physics.

*Not given in 1913-1914.

211-212. Theory of Oscillations With Their Applications to Wireless Telegraphy. Two credit hours. The year. Prerequisite, Physics 105-106, and Mathematics 141-142, or equivalents. Alternates with 213-214. Mr. Blake.

***213-214. Conduction of Electricity Through Gases and Radioactivity.** Two credit hours. The year. Prerequisite, same as for 211-212. Mr. Earhart and Mr. Blake.

215-216. Electromagnetic Theory. Three credit hours. The year. The content of this course is subject to great variation from year to year. In 1913-14 the greater part of the time will be devoted to the electrodynamics of moving bodies and the theory of radiation, and the remainder to recent work in magnetism. Mr. Barnett.

POLITICAL ECONOMY.

(See Economics and Sociology)

POLITICAL SCIENCE

(Office, Room 200, University Hall)

PROFESSOR SPENCER, ASSISTANT PROFESSOR COKER, MR. SCHLESINGER

For Undergraduates.

101-102. Constitutional Government. Three credit hours. The year. M., W., F., at 8 or 1; T., Th., S., at 10. Course 101 is repeated second semester. Tu., Th., S., at 10. Mr. Spencer, Mr. Coker, Mr. Schlesinger.

This course is not open to freshmen. It affords a general introduction to the field of political science, and should precede all other courses offered by the department, except course 113-114. American government is studied in the first semester, European governments in the second. It is strongly recommended that this course be preceded by a year's work in European or American history.

111-112. Introduction to Jurisprudence. Two credit hours. The year. Tu., Th., at 9. Prerequisite, Political Science 101-102, except by special permission of the instructor. Mr. Spencer.

A preliminary study of legal concepts. Holland's Jurisprudence will be used as a text-book, supplemented by readings in the works of Blackstone and Maine, and in American cases.

*Not given in 1913-1914.

113-114. Problems in International Politics. One credit hour. The year. Time to be arranged. Given biennially. Mr. Spencer.

An investigation of selected problems and topics in current international politics. A considerable amount of reading in the English and American reviews will be assigned.

For Advanced Undergraduates and Graduates.

103-104. International Law. Two credit hours. The year. Tu., Th., at 10. Prerequisite, Political Science 101-102. Mr. Spencer.

A study of the principles of international law in their growth and present status, together with an examination of some of the unsettled questions in the field. Lawrence's Principles of International Law to be used as a text-book, with frequent citations of authorities to be read, and with some leading cases to be thoroughly examined.

119-120. Comparative Constitutional Law. Two credit hours. The year. Tu., Th., at 1. Prerequisite, Political Science 101-102. Mr. Coker.

A comparative study of the constitutions of the United States and leading foreign countries: the extent of suffrage, and the powers of the voters; the structure and functions of the legislature, executive and judiciary; the rights of the individual against the government.

106. Municipal Government and Problems. Three credit hours. Second semester. M., W., F., at 9. Prerequisite, Political Science 101-102. Mr. Spencer.

Given biennially.

A comparative study of the City, in ancient and modern times, in America, England and Europe; lessons from experience, projects for reform.

107. Party Government. Three credit hours. First semester. M., W., F., at 9. Prerequisite, Political Science 101-102. Given biennially, alternating with course 109. Mr. Spencer.

Parties will be considered as extra-governmental agencies for political purposes; their reason for being, their organization and methods, the effect of their activity upon governmental processes.

***108. Colonial Government and Administration.** Three credit hours. First semester. Given biennially. Prerequisite, Political Science 101-102. Mr. Coker

***109. The Government of Ohio.** Three credit hours. First semester. Given biennially, alternating with course 107. Prerequisite, Political Science 101-102. Mr. Spencer.

***121-122. Comparative Administration.** Three credit hours. The year. M., W., F., at 3. Prerequisite, Political Science 101-102. Mr. Coker.

A description of the administrative systems of Ohio, the United States, England, France, and Prussia; the appointment and election of administrative officers, their powers and duties, remedies of the individual against unlawful action of administrative officers, control over their action exercised by higher administrative officers, the courts, and the legislature.

123. English Politics. A study of the political ideas of present English parties, and of the political aspects of recent measures of social reform, state socialism, and constitutional change. Three credit hours. First semester. M., W., F., at 2. Mr. Coker.

124. Legislation. A study of the proceedings of legislative bodies, and of the preparation of bills—as to form and subject-matter. Three credit hours. Second semester. M., W., F., at 2. Mr. Coker.

115-116. History of Political Theories. Two credit hours. The year. Tu., Th., at 8. Prerequisite, Political Science 101-102. Mr. Coker.

The development of leading ideas in politics will be traced from the time of the Greeks to the present.

117-118. Pro-Seminar in Political Science. Prerequisite, Political Science 101-102 and two other semester courses in the Social Sciences group. Mr. Spencer, Mr. Coker.

The topics for study in 1913-1914 will be projects for reform in American government, such as the short ballot, commission form of government, direct primaries and the extension of suffrage, the initiative and the referendum. Before

*Not given in 1913-1914.

registering for this course the consent of a member of the department must be obtained.

PSYCHOLOGY

(Office, Room 404, University Hall)

PROFESSORS MAJOR, HAINES, AND ARPS

101-102. General Psychology. Introductory course. Three credit hours. The year. M., W., F., at 9, 11, 1, 2, or 3; Tu., Th., S., at 11. Mr. Major, Mr. Haines, Mr. Arps.

101 is repeated the second semester. M., W., F., at 2.

111-112. Experimental Psychology. Three credit hours. The year. Lecture and laboratory. Tu., 1 to 4; Th., 2 to 4. Prerequisite, Psychology 101-102. Mr. Arps.

A systematic training course in the method of introspection, which brings one to a first-hand acquaintance with the facts of the mental life. Topics: The sense fields, geometrical optical illusions, stereoscopic and pseudoscopic illusions, tactual space perception, auditory localization, attention, reaction-time, memory types, tonal fusion, association, and analysis of judgment

***115-116. Mental Development.** Two credit hours. The year. Mr. Major.

This course is designed (1) to describe the characteristic features of the child mind; (2) to study the principles and empirical data of the development of the individual human mind.

121. Abnormal Psychology. Three credit hours. First semester. M., W., F., at 1. Prerequisite, Psychology 101-102. Mr. Haines.

Studies of the main types of insanity, both for the knowledge of the constitution of the abnormal mind, and for the knowledge gained by contrast, of the normal mind. Clinics, lectures and recitations.

***119. Animal Psychology.** Three credit hours. First semester. Prerequisite, Psychology 101-102. Mr. Haines.

A systematic following-out of the steps in the evolution of mental processes through the animal series from the protozoa

*Not given in 1913-1914.

to the apes, with a special look-out for the method of organization, studies in the development of the senses, association, memory, perception, attention, suggestion, accommodation, imitation, learning-capacity, and practical judgment.

122. The Defective Child. Three credit hours. Second semester. Prerequisite, Psychology 101-102. M., W., F., at 1. Mr. Haines.

A study of the varieties and grades of mental deficiency, including the backward child of the schools and the distinctly feeble-minded. The causes and treatment of the same. Lectures, recitations and clinics.

125. Social Psychology. Three credit hours. First semester. M., W., F., at 2. Prerequisite, Psychology 101-102.. Mr. Haines.

The social factor in the development of personality, and the mental process involved in social development, including such topics as suggestion, imitation, invention, sympathy, modesty, the socially unfit, and the genius.

***126. Folk Psychology.** Three credit hours. Second semester. M., W., F., at 3. Prerequisite, Psychology 101-102.

The psychic factors involved in group activities, such as the play of children, art (especially of savages and barbarians), mob phenomena, family life and ethnic groups.

***129-130. Advanced Psychology.** Two credit hours. The year. Tu., Th., at 3. Prerequisite, Psychology 101-102.

This course includes a discussion of the methods of Psychology, and a detailed consideration of the main psychological concepts—feeling, conation, perception, imagination, etc., both in themselves and in their relation to one another.

133-134. Individual Psychology. Two credit hours. The year. M., W., or W., F., 2 to 4. Mr. Major.

A study of individual variations in mental capacity and development.

***137-138. General Psychology.** Advanced course. Three credit hours. The year. M., W., F., at 3. Mr. Major.

This course is open to students who have completed Psychology 101-102, or the equivalent, and who wish to make a more

*Not given in 1913-1914.

intensive study than is practical in an introductory course of certain topics selected from the field of general psychology.

For Advanced Undergraduates and Graduates.

141-142. Research in Experimental Psychology. Two credit hours or more. The year. Prerequisite, Psychology 101-102, 111-112. Mr. Arps.

The investigation of problems in any field of Psychology by the aid of the experimental method. The student selects a problem in consultation with the instructor.

145-146. Seminar in Psychology. Two to five credit hours. The year. M., W., F., 2-4. Mr. Major, Mr. Arps.

147-148. The Measurement of Intelligence. Two credit hours. The year. Th., 2-4. Mr. Haines.

A seminar course devoted to the methods of diagnosis and treatment of exceptional children.

For Graduates

201-202. Graduate Courses in Psychology. Three to ten credit hours. The year. Mr. Major, Mr. Haines, Mr. Arps.

These courses are to meet the needs of individual graduate students who are pursuing a major or minor study in the department of Psychology.

RHETORIC AND ENGLISH LANGUAGE

(See English)

ROMANCE LANGUAGES AND LITERATURES

(Office, Room 305, University Hall)

PROFESSORS BOWEN AND BRUCE, ASSOCIATE PROFESSOR INGRAHAM, ASSISTANT PROFESSOR HAMILTON, MR. CHAPIN, MR. ROCKWOOD,
MR. BOND, MR. ———

Courses 101-102, 103-104 in French must precede all others (except Course 106). Courses 117 to 120 inclusive, in French must be preceded by Courses 107, 109, and 110, or an equivalent.

I. French

101-102. Elementary French. Four credit hours. The year. Tu., W., Th., F., at 8 and 3; M., Tu., Th., F., at 9, 10, 11, 1, and 2.

Grammar: Fraser and Squair's, or equivalent. **Reader:** Aldrich and Foster's, or Bowen's First Scientific. Historical and narrative prose; one or more prose comedies. Eleven sections. All instructors.

Stress is laid first upon the acquisition of a correct pronunciation, after which the entire energy of the student is directed toward the attainment of a full and accurate reading knowledge of the language. Grammar and composition made to contribute to this end. Sight reading emphasized.

103-104. Modern French Literature. Four credit hours. The year. M., Tu., Th., F., at 8, 9, 10, 11, 1, and 2. Six sections. Prerequisite, courses 101-102, or equivalent. Mr. Bowen, Mr. Hamilton, Mr. Chapin, Mr. Rockwood, Mr. Bond.

The work of the year deals with the following subjects: (1) Contes; (2) The novel (Balzac or Hugo); (3) Lyric poetry; (4) Romantic drama (Hugo). Prose composition, with practise in speaking. Systematic attention given to syntax and idiom. Lectures supplement the work. Private reading required.

106. Science Reading. Four credit hours. Second semester. Prerequisite, course 103. M., Tu., Th., F., at 10. Mr. Chapin.

A course of rapid reading introductory to the vocabulary of scientific literature.

For Advanced Undergraduates and Graduates.

107. Advanced Prose Composition. Two credit hours. First semester. Tu., Th., at 8 and 2. Mr. Bruce, Mr. Hamilton.

Cameron's French Composition, followed by other selections. Dictation. Conversation. The course is conducted mainly in French.

108. History of French Literature. Two credit hours. Second semester. Lectures and illustrative readings. Tu., Th., at 8. Mr. Bruce.

109. Seventeenth Century Drama. Moliere and Corneille. Three credit hours. First semester. M., Th., F., at 10. Mr. Bowen.

Lectures on the growth of French comedy and tragedy. Critical study of representative plays of Moliere, Regnard, and Corneille. Collateral reading. Assigned topics and reports.

110. Seventeenth Century Tragedy and Prose. Three credit hours. Second semester. M., Th., F., at 10. Mr. Bowen.

Representative dramas of Racine; study of Descartes, Pascal, La Bruyere and others. Warren's Selections. Lectures, with collateral reading and reports.

111. Eighteenth Century Drama. Three credit hours.. First semester. M., W., F., at 8. Prerequisite, courses 109 and 110. Mr. Ingraham.

Lectures on French comedy after Moliere, with work centering on Marivaux and Beaumarchais. Study of the drama of Voltaire. Collateral reading and reports.

112. Nineteenth Century Drama. Three credit hours. Second semester. M., W., F., at 8. Prerequisite, courses 109 and 110. Mr. Ingraham.

Tendencies of French drama during the nineteenth century, with especial reference to Scribe, Augier, Dumas fils, and Sardou. Lectures, with collateral reading and reports.

113. Recent French Prose. Two credit hours. First semester. Given biennially, alternating with course 115. Tu., Th., at 9. Mr. Bruce.

Rapid reading, with lectures. Selections from the works of such writers as Bazin, Daudet, Loti, and Zola.

114. Practise in Speaking and Writing French. Two credit hours. Second semester. Students wishing to elect this course must have the consent of the instructor in charge. Given biennially, alternating with course 116. Tu., Th., at 9. Mr. Bruce.

***115. Eighteenth Century Prose.** Two credit hours. First semester. Given biennially, alternating with course 113. Mr. Bruce.

Selections from Voltaire (ed. Cohn and Woodward), and others.

***116. Advanced Conversational Practise.** Two credit hours. Second semester. Students wishing to elect this course must have the consent of the instructor in charge. Given biennially, alternating with course 114. Mr. Bruce.

117-118. French Seminar A. Two credit hours. The year. M., 3 to 5. Mr. Bowen.

*Not given in 1913-1914.

Studies in specific literary fields. The subject for 1913-1914 will probably be: The development of the French novel. During the second semester lectures will be given on methods of teaching French and the teacher's equipment.

119-120. French Seminar B. Two credit hours. The year. Th., 2 to 4. Mr. Bowen.

Studies in Old French (with emphasis of *la Chanson de Roland*) and in the language and writers of the sixteenth century. Special consideration of Montaigne.

II. Italian.

101-102. Elementary Italian. Two credit hours. The year. Tu., Th., at 11. Grammar (Grandgent's or Young's) and Reader (Bowen's). Modern prose. Comedies of Goldoni. Students are advised to postpone the election of this course until they have completed French 101-102, or an equivalent. Mr. Bruce.

For Advanced Undergraduates and Graduates.

103. The Italian Novel. Two credit hours. First semester. Time to be arranged. Manzoni (*I Promessi Sposi*). Lectures. Prerequisite, Italian 101-102. Mr. Bruce.

104. Dante. Two credit hours. Second semester. Time to be arranged. Selections from the *Inferno* and *Paradiso*. Lectures. Prerequisite, Italian 103. Mr. Bruce.

III. Spanish

101-102. Elementary Spanish. Four credit hours. The year. M., Tu., Th., F., at 9, 10, and 2. Grammar: Ingraham—Edgren's and Ingraham's *Victoria y Otros Cuentos*. Easy prose and plays. Composition and practise in speaking. Three sections. Mr. Ingraham, Mr. Hamilton, Mr. Chapin.

For Advanced Undergraduates and Graduates.

103-104. Modern Spanish Literature. Four credit hours. The year. Prerequisite, Spanish 101-102, or equivalent. M., Tu., Th., F., at 1. Mr. Ingraham or Mr. Chapin.

The modern novel and drama. Lectures covering a survey of the literature. Composition and practise in speaking continued.

***105. Cervantes: Don Quixote.** Two credit hours. First semester. Prerequisite, Spanish 103-104. Given biennially, alternating with course 107. Mr. Ingraham.

***106. Lope de Vega and Calderon.** Two credit hours. Second semester. Prerequisite, Spanish 105. Given biennially, alternating with course 108. Mr. Ingraham.

107. The Novel after Cervantes. Two credit hours. First semester. Prerequisite, Spanish 103-104. Given biennially, alternating with course 105. Tu., Th., at 11. Mr. Ingraham.

108. Contemporaries of Lope de Vega and Calderon. Two credit hours. Second semester. Prerequisite, Spanish 107. Given biennially, alternating with course 106. Tu., Th., at 11. Mr. Ingraham.

Exclusively for Graduates

201-202. Introduction to Romance Philology. Two credit hours. The year. Prerequisite, four years of collegiate French and some reading knowledge of Italian and Spanish. Mr. Bowen.

Origin and distribution of the Romance Languages and dialects. Comparative phonology and morphology of French, Italian and Spanish. Peculiarities of syntax. Lectures, with interpretation of illustrative texts.

***203-204. Old Provençal.** One credit hour.. The year. Prerequisite, four years of collegiate French. Mr. Bowen.

Study of the language and literature of the Troubadours. Appel's *Provenzalische Chrestomathie* (Leipzig, 3rd edition); Grandgent's *Provençal Phonology and Morphology*.

205-206. History of the Literary Movement in France in the First Half of the Nineteenth Century. Two credit hours. The year. Prerequisite, three years of collegiate French. Mr. Bruce.

207-208. Research in French Literature. Three to ten credit hours. The year. Prerequisite, not less than four years of collegiate French and the permission of the instructor in charge. Mr. Bowen.

*Not given in 1913-1914.

These courses are designed to meet the needs of individual graduate students who are pursuing a major study in the department of Romance Languages. The work will be chosen in one of the following fields: (a) classical drama; (b) modern drama; (c) the novel; (d) poetry; (e) literature of the mediaeval period.

209-210. Research in Spanish Literature. Three to ten credit hours. The year. Prerequisite, not less than three years of collegiate Spanish and the permission of the instructor in charge. Mr. Ingraham.

These courses are designed to meet the needs of individual graduate students who are pursuing a major study in the department of Romance Languages. The work will lie in one of the following fields: (a) the drama; (b) the novel.

The attention of all students in Romance Languages is called to Courses 111 and 112 in Latin, given by Professor Elden, on the subject of Roman and Comparative Literature. These courses are strongly recommended.

SOCIOLOGY

(See Economics and Sociology)

SPANISH

(See Romance Languages)

ZOOLOGY AND ENTOMOLOGY

(Office, Room 1, Biological Hall)

PROFESSOR OSBORN, PROFESSOR LANDACRE, ASSOCIATE PROFESSOR HINE,
ASSISTANT PROFESSOR BARROWS, MISS MCCLELLAN, MR. KOSTIR, MR.
BILSING, MISS FAVILLE, MISS ICKES, MISS OSBORN, AND
STUDENT ASSISTANTS

101-102. Elementary Zoology. Three credit hours. The year. Laboratory and lectures. L. M., F., at 10 or 1; Tu., Th., at 8, 9, or 1. Lab. M., 1-3; Tu., 10-12, or 1-3; W., 1-3; Th., 10-12, or 1-3; F., 1-3; W., 8-10; S., 10-12. Mr. Osborn, Mr. Landacre, Mr. Barrows and assistants.

An introductory general course intended to give an acquaintance with animal life and the principles of biology and as a foundation for more advanced courses.

103. Comparative Anatomy of the Vertebrates: Vertebrates to Birds. Three to five credit hours. First semester. L. W., at 1. Lab. W., Th., F., 1-4. Prerequisite, course 101-102, or equivalent. Mr. Landacre.

104. Comparative Anatomy of Vertebrates: Birds and Mammals. Three to five credit hours. Second semester. L., W., at 1. Lab. W., Th., F., 1-4. Prerequisite, course 103. Mr. Landacre.

107-108. Economic Entomology. Three credit hours. The year. L. Tu., Th., at 10. Lab. Tu., or Th., 8-10; S., 8-10; S., 10-12. A general course in Entomology with special reference to economic species. Prerequisite, Zoology 101-102.

119. Gross Anatomy of the Frog. Three to five credit hours. First semester. Mr. Landacre.

120. Embryology of the Frog. Three to five credit hours. Second semester. Prerequisite, course 101-102 or 119. Time to be arranged. Mr. Landacre.

121-122. Invertebrate Morphology. Three to five credit hours. The year. L. W., at 11; Lab. Tu., Th., F., 1-3. Prerequisite, course 101-102. Mr. Osborn.

125. Vertebrate Embryology, Karyokinesis, and the Early Development of Amphioxys, Fishes and Amphibians. Three to five credit hours. First semester. L. Th., at 1. Lab. Th., F., 1-4. Prerequisite, course 101-102. Mr. Landacre.

126. Vertebrate Embryology: Birds and Mammals. Three to five credit hours. Second semester. L. Th., at 1. Lab. Th., F., 1-4. Prerequisite, course 101-102. Mr. Landacre.

129-130. Quantitative Studies in Variation, Heredity and Animal Behavior. Two and four credit hours. The year. Tu., Th., at 10. Prerequisite, course 101-102, or equivalent. Mr. Barrows.

139. Ornithology. Two credit hours. First semester. Lecture M., at 10. Laboratory to be arranged. The first semester is devoted to the anatomy of the birds and to the study of museum specimens. Mr. Hine.

140. Ornithology. Two credit hours. Second semester. Lecture M., at 10. Laboratory to be arranged. This semester is devoted to systematic and field work. Mr. Hine.

131-132. Evolution. Three credit hours. The year. M., W., F., at 8. Prerequisite, one year of Zoology or an equivalent. Mr. Osborn, Mr. Landacre.

A discussion of the facts and theories of the origin, development and distribution of animal life. The first semester deals chiefly with variation, heredity, ontogeny and the structural basis of evolution. The second semester is devoted to a study of isolation, adaptation, geographical and geological distribution as related to the evolution of animals.

For Advanced Undergraduates and Graduates.

133. Comparative Neurology. Three to five credit hours. First semester. L. Tu., at 1. Lab. to be arranged. The origin and structure of the nervous system of the lower vertebrates. Mr. Landacre.

134. Comparative Neurology. Three to five credit hours. Second semester. L. Tu., at 1. Lab. to be arranged. The origin and structure of the nervous system of the higher vertebrates. Mr. Landacre.

135-136. Cytology. Three to five credit hours. The year. Prerequisite, course 101-102, 103, 104, or 121-122.

137-138. Advanced Entomology. Three to five credit hours. L. M., W., at 3. Lab. M., W., F., 1-3. Prerequisite, course 101-102, and 107-108. Mr. Osborn.

141-142. Research Work. Subject to be assigned. Five to ten credit hours. The year. Prerequisite, course 101-102, and the equivalent of 103-104, or 121-122, or 125-126. Mr. Osborn, Mr. Landacre.

143-144. Seminar. One credit hour. The year. L. Tu., at 4. Mr. Osborn, Mr. Landacre.

For Graduates

223-224. Invertebrate Embryology. Three to five credit hours. The year. Time to be arranged. For graduates only. Prerequisite, course 101-102, 103, 104, or equivalent. Mr. Osborn.

247-248. Invertebrate Zoology. The year. Five credit hours. Time to be arranged. Mr. Osborn.

249-250. Vertebrate Embryology. Three to five credit hours. The year. Subject to be assigned. Time to be arranged. Mr. Landacre.

GENERAL INFORMATION

THE BRYAN PRIZE

Through the generosity of Hon. William J. Bryan an annual prize of twenty-five dollars is offered for the best essay on the principles underlying the form of government of the United States. Competition for this prize is open to all students of the University. For further information, make inquiry of the head of the department of American History.

THE APPOINTMENT COMMITTEE

In order to serve the schools of the State, the University Faculty has provided a committee, one of the duties of which is to assist graduates of the University to teaching positions for which they are best fitted. Any student of the University intending to teach is invited to enroll his name with the committee on a blank provided for that purpose by the committee. Graduates of the University who are already engaged in teaching are also cordially invited to correspond with the Appointment Committee with a view to bettering their positions. Correspondence is invited from Boards of Education and from Superintendents and Principals of Schools in need of teachers. No fee is charged for the services of the committee.

FEES

All fees must be paid at the opening of each semester as a condition of admission to classes. Registration is not complete until certain incidental and laboratory fees are paid.

Incidental Fee—The fee for students who are residents of Ohio is \$10.00 a semester. For non-residents, the fee is \$15.00 a semester. Students must reside in Ohio one year before they are eligible under the resident fee. Children of non-resident Alumni pay the same fee as residents of Ohio.

Also, resident students who elect five hours or less in the College of Law pay a fee of \$7.50 per semester, non-residents, \$10.00; more than five hours, for resident students, \$22.50, non-resident, \$25.00 per semester.

Former students who do not pay this fee until the third day of the first semester and the second day of the second semester, must pay one dollar additional. For each day of delinquency thereafter fifty cents is added.

Laboratory Fees—A fee of two dollars a semester is charged for all laboratory courses using gas, water, electrical current or steam. For all other courses which are not purely lecture courses, a laboratory fee of one dollar is charged. Students are required to pay for all materials consumed in laboratory work. To met the cost of these materials a deposit for each course requiring such supplies is made at the Bursar's office before the work is begun. In Chemistry the deposit is \$10.00; in Zoology it is \$2.00. All laboratory supplies are sold at the General Store Room, Chemistry Hall, to students at cost to the University, and charged against the deposits. Any unused part of the deposit is refunded at the end of the semester.

OTHER EXPENSES

Locker Fee—The gymnasium is free to all students, but those desiring to use a locker are charged a fee of two dollars a semester, which includes the rental of towels.

Cadet Uniform—The uniform with which the members of the regiment are required to provide themselves costs (without overcoat) about twelve dollars. It is quiet in pattern, and may be worn in place of civilian dress. New students are advised against buying secondhand uniforms unless they have been previously inspected and approved by the Commandant. Inspection has shown in many cases that the second-hand uniforms were unfit to wear and certainly not worth the price asked for them. All such uniforms are subject to rejection by the Commandant. Students should not arrange for uniforms until so directed by the military authorities.

The Ohio Union—A fee of one dollar a semester is paid by all male students at registration. This entitles the student to all the privileges of the Union, consistent with the Constitution and House Rules governing it.

Auditor's Fee—On presentation to the Bursar of the written consent of the head of a department, and on the payment to the Bursar of an auditor's fee of one dollar, any person engaged

in teaching is permitted to attend, in that department, any class or course (not to exceed three hours a week for one-half year) which is announced to be especially for teachers or those intending to teach.

Graduation Fee—A fee of five dollars, to cover expense of graduation and diploma, is required of each person receiving one of the ordinary degrees from the University, and this fee must be paid on or before the last Friday preceding Commencement. A like fee of ten dollars is charged each person receiving one of the higher graduate degrees.

Rooms and Board—Furnished rooms, accommodating two students, can be rented at one dollar to one dollar and a half per week for each student. Board at the restaurants and boarding clubs near the University costs from three dollars to three dollars and fifty cents per week. The Ohio Union Commons offers board to men at reasonable rates. Board with furnished rooms can be obtained in private families at rates varying from five to six dollars per week.

Text-books—Students should not purchase text-books until they are advised by the instructors of their respective classes.

EXPENSES PER YEAR

One of the most perplexing questions that confronts a prospective student is what the course is going to cost him a year.

In order to furnish information, we have listed below an estimate of the average payments required by the University for the freshman year in the College of Arts, Philosophy and Science, and have estimated the cost for room and boarding at a safe price. These two items are sometimes reduced slightly where two students occupy the same room and where boarding clubs are economically managed. Fees to the University are paid one-half at the beginning of each semester.

Incidental fee.....	\$20 00
Ohio Union	2 00
Gymnasium Locker	4 00
Laboratory fees.....	4 00
Deposits (if Chemistry is elected).....	20 00
Uniform	12 00
Books	15 00

Board—(36 weeks at \$3.50 per week).....	126 00
Room rent, at \$8.00 per month.....	72 00
General expenses	75 00
	<hr/>
	\$350 00

The item of general expenses is always subject to the personal habits of the individual, and varies according to the degree of economy exercised.

Note—In order to meet all the necessary expenses of registration, books, uniform and other expenditures incident to securing a room and board, a student should come prepared to expend from \$65.00 to \$75.00 during the first ten days of a semester. After that period, his board and room rent will constitute the major part of his expenses.

Women Students

As far as possible, women students should make arrangements for room and board in advance. An effort will be made to secure suitable accommodations in private residences for such as cannot be accommodated in Oxley Hall. Prospective women students should address Miss Caroline Breyfogle, Dean of Women, Ohio State University, Columbus, Ohio.

Self Support.

There is a large amount of work on the University farm and campus and in the gardens, orchards, and greenhouses, which can be done by students, for which they are paid at current rates for such labor. By this means, together with what can be earned by steady labor during the summer vacation, a considerable number of students defray all their expenses.

Preference is given to students who are willing to devote a certain number of hours each day to the work assigned.

Self-support does not relieve students from cadet service. Prospective students are advised to make note of this fact before deciding to register.

Work cannot be promised to all applicants, and is not guaranteed to any.

Applications for employment should be made to the Superintendent of the University farm, or at the Executive office.

Fellowships

To encourage graduates of this University, and of other approved institutions of learning, to continue their studies and to undertake advanced work leading to the higher degrees, the University has established fellowships in several departments. These demand about one-half of the time of the fellow for laboratory or other assistance—as far as possible along the line of his graduate study. The remainder of his time is given to graduate work. The fellowships pay from \$150 to \$300 for the University year. Application for a fellowship should be made on a blank which may be obtained of the Registrar. Students working toward a fellowship in a given department should inform the head of the department of that fact as early as possible in their undergraduate course.

Christian Associations

The Young Men's Christian Association has come to occupy a prominent place in university life. It has a membership of about six hundred men, and is affiliated with the World's Student Christian Federation.

Religious meetings are held for men Wednesday evening; there are also frequent meetings for the promotion of social intercourse and good fellowship. Courses in systematic Bible study and in modern missions are offered. A most helpful feature of the work is that in the interest of new students at the opening of the school year. Desirable rooms and boarding places are found and posted for reference at the Association Office. Representatives of the Association meet the trains, assist students in finding satisfactory locations, and endeavor in every way to make them feel at home. The employment Bureau helps to find work.

A copy of the Student's Handbook, giving information about Columbus, the University, and the various college organizations and activities, will be sent free to prospective students. For this handbook or for other information, address the General Secretary of the O. S. U., Y. M. C. A., University Campus, Columbus, Ohio.

The Young Women's Christian Association holds religious meetings regularly at noon on Tuesdays. This organization is active and efficient in working for the highest interests of the young women.

The Ohio State University Bulletin is issued at least twenty times during the year; monthly in July, August, September and June, and bi-weekly in October, November, December, January, February, March, April and May.

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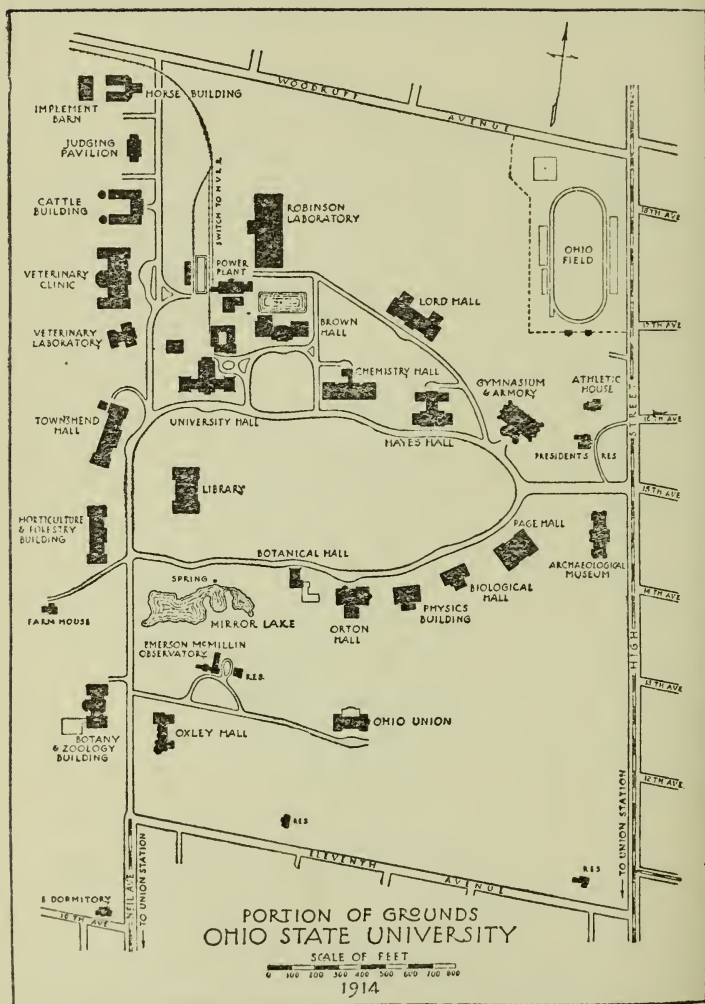
COLLEGE OF
ARTS, PHILOSOPHY,
AND SCIENCE

1914-15



PUBLISHED BY THE UNIVERSITY AT COLUMBUS

Entered as second-class matter November 17, 1905, at the postoffice
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THE OHIO STATE UNIVERSITY

The Ohio State University is a part of the educational facilities maintained by the State and is located in the northern part of the city of Columbus. It is reached from the Union Station by North High Street or Neil Avenue electric cars. It comprises seven colleges and a graduate school:

The College of Agriculture,
The College of Arts, Philosophy, and Science,
The College of Education,
The College of Engineering,
The College of Law,
The College of Pharmacy,
The College of Veterinary Medicine,
The Graduate School.

This bulletin is devoted exclusively to the work of the College of Arts, Philosophy, and Science for the academic year, 1914-15.

[Note—The University publishes a bulletin descriptive of each College. Copies may be obtained by addressing W. E. Mann, University Editor, Columbus, Ohio, and stating the college in which the writer is interested.]

UNIVERSITY CALENDAR

1914

Entrance examinations, Tuesday to Saturday, June 9 to 13 (8 a. m.)

Summer Session, June 22 to August 14.

Entrance examinations, Tuesday to Saturday, September 8 to 12 (8 a. m.)

First semester begins—Registration Day—Tuesday, September 15.

President's Annual Address, Friday, September 18 (11 a. m.)

Latest date of admission to candidacy for a degree at the Commencement of June, 1915, Thursday, October 1.

Date for mid-semester reports to the Deans concerning delinquent students, Wednesday, November 18.

Thanksgiving recess begins November 25 (6 p. m.) and ends December 1 (8 a. m.)

Christmas recess begins Saturday, December 19 (12 m.)

1915

Christmas recess ends Tuesday, January 5 (8 a. m.)

Final examinations, first semester January 28, to February 4.

First semester ends Thursday, February 4 (6 p. m.)

Second semester begins—Registration Day—Tuesday, February 9.

Washington's Birthday, Monday, February 22.

Date for mid-semester reports to the Deans concerning delinquent students, Saturday, March 20.

Easter recess, Saturday, March 27 (12 m.), to Tuesday, April 6 (8 a. m.)

Competitive Drill—Cadet Regiment—Saturday, May 22.

Memorial Day, Sunday, May 30.

Final examinations, Thursday, June 3, to Thursday, June 10.

Entrance examinations (8 a. m.), Tuesday, June 8, to Saturday, June 12.

Commencement, Wednesday, June 16.

COLLEGE OF ARTS, PHILOSOPHY, AND SCIENCE

This College comprises those courses of study that are designed to furnish a liberal education in the languages and literatures, the sciences, mathematics, philosophy, history, politics, economics, sociology, and preparation for commerce, law, medicine, philanthropic work, administration, journalism, and the higher positions in teaching.

DEPARTMENTS

The College of Arts, Philosophy, and Science includes work in the following departments: American History, Anatomy, and Physiology, Astronomy, Bacteriology, Biblical Literature, Botany, Chemistry, Economics and Sociology, English, European History, Geology, German, Greek Language and Literature, Latin Language and Literature, Mathematics, Military Science and Tactics, Philosophy, Physical Education, Physics, Political Science, Psychology, Romance Languages and Literatures, Zoology and Entomology.

GRADUATE COURSES

The graduate instruction offered in the College of Arts, Philosophy, and Science is given in the Graduate School. A special bulletin describing the organization, admission requirements, and work of the Graduate School may be obtained on application to the University Editor.

SUMMER SESSION

The University conducts a summer session for eight weeks, in which most of the courses offered are credited by this College. As applicable to the graduate work, three summer sessions of full time work are required as the equivalent of a year's residence, provided that the work undertaken in the summer session is continued between sessions and supervised by the departments concerned and a detailed statement of such (ad interim) work satisfactory to the committee on graduate work is filed with the committee. Otherwise, four summer sessions are required as equivalent to a year's residence.

No undergraduate will be admitted to candidacy for a degree at any Commencement who has not done the last year of work required for the degree in residence, two summer sessions being considered the equivalent of one semester, and four summer sessions the equivalent of the year, and no student will be registered in such candidacy later than the first day of October.

THE LAKE LABORATORY

The University maintains a Lake Laboratory at Sandusky during the summer vacation, which is designed to provide opportunity for the investigation of the biology of the lake region, and for giving certain courses of instruction in the departments of Botany and Zoology and Entomology. For further information write for a special bulletin, which may be obtained from the University Editor.

BUSINESS ADMINISTRATION AND SOCIAL SERVICE, AND JOURNALISM

Students desiring to prepare themselves to pursue a business career or to engage in philanthropic work or journalism are invited to send to the University Editor for special bulletins describing these courses.

FACULTY AND INSTRUCTORS

WILLIAM OXLEY THOMPSON, D. D., LL. D., President of the University.

JOSEPH VILLIERS DENNEY, M. A., DEAN, and Professor of English.

HOMER C. HOCKETT, B. L., SECRETARY, and Professor of American History.

WILLIAM HENRY SCOTT, LL. D., Emeritus Professor of Philosophy.

*SAMUEL CARROLL DERBY, A. M., Professor of the Latin Language and Literature.

†JOSIAH RENICK SMITH, A. M., Professor of the Greek Language and Literature.

GEORGE WELLS KNIGHT, Ph. D., Professor of American History.

ROSSER DANIEL BOHANNAN, B. Sc., C. E., M. E., Professor of Mathematics.

ALBERT MARTIN BLEILE, M. D., Professor of Anatomy and Physiology.

BENJAMIN LESTER BOWEN, Ph. D., Professor of Romance Languages and Literatures.

WILLIAM MCPHERSON, D. Sc., Ph. D., Professor of Chemistry.

HERBERT OSBORN, M. Sc., Professor of Zoology and Entomology, and Director of the Lake Laboratory.

HENRY CURWEN LORD, B. Sc., F. R. A. S., Professor of Astronomy and Director of the Emerson McMillin Observatory.

*Absent on leave, 1913-1914.

†Died February 15, 1914.

CHARLES SMITH PROSSER, D. Sc., Ph. D., Professor of Geology.

JOHN ADAMS BOWNOCKER, D. Sc., Professor of Inorganic Geology and Curator of the Museum.

ALFRED DODGE COLE, M. A., Professor of Physics.

WILBUR HENRY SIEBERT, M. A., Professor of European History.

M. BLAKEMORE EVANS, Ph. D., Professor of German.

DAVID R. MAJOR, Ph. D., Professor of Psychology.

CHARLES BRADFIELD MORREY, B. A., M. D., Professor of Bacteriology.

*JAMES EDWARD HAGERTY, Ph. D., Professor of Economics and Sociology.

CHARLES A. BRUCE, B. A., Professor of Romance Languages and Literatures.

GEORGE WASHINGTON MCCOARD, M. A., Professor of Mathematics.

ARTHUR WINFRED HODGMAN, Ph. D., Professor of Latin.

WILLIAM EDWARDS HENDERSON, Ph. D., Professor of Inorganic and Physical Chemistry.

JOSEPH RUSSELL TAYLOR, M. A., Professor of English.

CHARLES WILLIAM FOULK, B. A., Professor of Analytical Chemistry.

*THOMAS HARVEY HAINES, Ph. D., Professor of Psychology.

FRANCIS LEROY LANDACRE, B. A., Professor of Zoology and Entomology.

WALLACE STEDMAN ELDEN, Ph. D., Professor of Latin.

MATTHEW BROWN HAMMOND, Ph. D., Professor of Economics and Sociology.

HARRY WALDO KUHN, Ph. D., Professor of Mathematics.

*GEORGE HARLEY MCKNIGHT, Ph. D., Professor of English.

KARL DALE SWARTZEL, M. Sc., Professor of Mathematics.

*Absent on leave, 1913-1914.

JOSEPH ALEXANDER LEIGHTON, Ph. D., Professor of Philosophy.

ARTHUR ERNEST DAVIES, Ph. D., Professor of Philosophy.

HENRY RUSSELL SPENCER, Ph. D., Professor of Political Science.

WILLIAM LLOYD EVANS, Ph. D., Professor of Chemistry.

EUGENE FRANKLIN McCAMPBELL, Ph. D., Professor of Bacteriology.

JOHN H. SCHAFFNER, M. A., M. S., Professor of Botany.

EDGAR SHUGERT INGRAHAM, Ph. D., Professor of Romance Languages.

WILLIAM LUCIUS GRAVES, M. A., Professor of English.

BERTHOLD AUGUST EISENLOHR, M. A., Professor of German.

FAYETTE AVERY MCKENZIE, Ph. D., Professor of Economics and Sociology.

JAMES RENWICK WITHROW, Ph. D., Professor of Chemistry.

FREDERIC COLUMBUS BLAKE, Ph. D., Professor of Physics.

OLIVER CARY LOCKHART, M. A., Professor of Economics and Sociology.

ROBERT F. EARHART, Ph. D., Professor of Physics.

EDGAR HOLMES MCNEAL, Ph. D., Professor of European History.

CHARLES CLIFFORD HUNTINGTON, M. A., Professor of Economics and Sociology.

CARSON SAMUEL DUNCAN, Ph. D., Professor of English.

THE REV. R. V. SCHMITT, A. M., Acting Professor of Greek.

JAMES STEWART HINE, B. Sc., Associate Professor of Zoology and Entomology.

EDMUND SEWALL MANSON, JR., S. M., Associate Professor of Astronomy.

RAYMOND JESSE SEYMOUR, M. S., M. D., Associate Professor of Anatomy and Physiology.

JOHN B. PRESTON, M. A., Assistant Professor of Mathematics.

ROBERT F. GRIGGS, Ph. D., Assistant Professor of Botany.

EDWIN LONG BECK, M. A., Assistant Professor of English.

LOUIS ALBION COOPER, B. A., Assistant Professor of English.

FRANCIS W. COKER, Ph. D., Assistant Professor of Political Science.

CLARENCE PERKINS, Ph. D., Assistant Professor of European History.

ALFRED DACHNOWSKI, Ph. D., Assistant Professor of Botany.

ALPHEUS WILSON SMITH, Ph. D., Assistant Professor of Physics.

EDWIN POE DURRANT, M. A., Assistant Professor of Anatomy and Physiology.

THEODORE ELY HAMILTON, Ph. D., Assistant Professor of Romance Languages.

VICTOR ALVIN KETCHAM, B. A., LL. B., Assistant Professor of English.

CARL JOSEPH WEST, M. A., Assistant Professor of Mathematics.

SARAH TRACY BARROWS, M. L., Assistant Professor of German.

LUDWIG LEWISOHN, A. M., Assistant Professor of German.

MARTHA GUERIN ELDEN, Ph. B., Acting Assistant in Ancient Art.

OLIVE JONES, B. A., Librarian.

WILLIAM THOMAS MAGRUDER, M. E., Professor of Mechanical Engineering.

GEORGE L. CONVERSE, Captain, (retired), U. S. A., Professor of Military Science and Tactics.

FRANCIS CARY CALDWELL, A. B., M. E., Professor of Electrical Engineering.

ALFRED VIVIAN, G. Ph., Professor of Agricultural Chemistry.

JAMES ELLSWORTH BOYD, M. S., Professor of Mechanics.

THOMAS EWING FRENCH, M. E., Professor of Engineering Drawing.

H. SHINDLE WINGERT, M. D., Professor of Physical Education.

EDNA NOBLE WHITE, B. A., Professor of Home Economics.

SAMUEL EUGENE RASOR, M. A., M. S., Professor of Mathematics.

CHARLES LINCOLN ARNOLD, M. Sc., Associate Professor of Mathematics.

THOMAS MCDUGAL HILLS, Ph. B., Assistant Professor of Geology.

MAY THOMAS, Ph. D., Assistant Professor of German.

CHARLES CLEMENTS MORRIS, M. A., Assistant Professor of Mathematics.

GRACE MARIE BAREIS, Ph. D., Assistant Professor of Mathematics.

CHARLES SHEARD, Ph. D., Assistant Professor of Physics.

FREDERICA DETMERS, Ph. D., Instructor in Botany.

ROBERT OSCAR BUSEY, Ph. D., Assistant Professor of German.

EXECUTIVE COMMITTEE

THE DEAN, *ex-officio*; THE SECRETARY, *ex-officio*; PROFESSOR LEIGHTON, PROFESSOR W. L. EVANS, PROFESSOR MCNEAL.

ADMISSION

Applicants for admission must be at least sixteen years of age. The College is open on equal terms to both sexes.

THE ENTRANCE BOARD

The admission of students is in charge of the University Entrance Board, which determines the credits that shall be issued on all entrance examinations and certificates, and furnishes all desired information to applicants. Correspondence relating to admission should be addressed to the Entrance Board, Ohio State University, Columbus.

ADMISSION TO COURSES LEADING TO A DEGREE

There are two modes of admission—by examination and by certificate.

ADMISSION BY EXAMINATION

The Entrance Board will conduct entrance examinations June 9 to 13, and September 8 to 12, 1914. A part of the examinations may be taken in June and the remainder in September. All applicants for admission who are not graduates of an accredited or recognized secondary school or approved preparatory school, or who do not possess certificates from the State Board of School Examiners, must take examinations for admission.

Schedule of Examinations. The hours for examinations are 8 a. m. and 1 p. m. Students intending to take any of the examinations scheduled in any given half day must appear within one hour of the time set for the examination. Students applying for examination will first go to the office of the Entrance Board, 100 University Hall, for registration.

Tuesday	A.M.	History: Ancient and Medieval (to 814 A.D.), Medieval and Modern (after 814 A. D.), English.
"	P.M.	English Composition and Rhetoric, English Classics, Chemistry.

Wednesday	A.M.	Algebra, Physical Geography, Greek.
"	P.M.	Plane Geometry, German, Spanish.
Thursday	A.M.	Civil Government, Solid Geometry, Zoology.
"	P.M.	Beginning Latin and Cæsar, Elements of Agriculture, Trigonometry, Commercial Geography.
Friday	A.M.	Physics, Physiology, Botany.
"	P.M.	American History, French, English Literature.
Saturday	A.M.	Vergil, Cicero, Domestic Science.

A special bulletin of entrance information will be mailed on request. Address the University Editor.

Topics for Examination

A unit is the equivalent of a course of study continuing through a school year and covering, in the aggregate, not less than one hundred and twenty clock-hours of class-room work, two hours of manual training or laboratory work being equivalent to one hour of class-room work.

English	I, 2, 3, or	4 units
(Foreign students may substitute their native language for the English requirement.)		
American History or American History and Civil Government		1 unit
Ancient History (Greek and Roman) and Medieval History to 814 A. D.		1 unit
Medieval and Modern History from 814 A. D. to the present		1 unit
(For the present, General History may be counted as a unit, but not in addition to Ancient or Medieval and Modern History.)		
English History	$\frac{1}{2}$ or	1 unit
Algebra (through quadratics)	1	unit
Algebra (beyond quadratics)	$\frac{1}{2}$	unit
Geometry (plane)	1	unit
Geometry (solid)	$\frac{1}{2}$	unit
Trigonometry	$\frac{1}{2}$	unit
Latin	I, 2, 3, or	4 units
Greek	I, 2, or	3 units
German	I, 2, 3, or	4 units
French	I, 2, 3, or	4 units
Spanish	I, 2, 3, or	4 units
Physics	1	unit

Chemistry	I	unit
Physical Geography	$\frac{1}{2}$ or I	unit
Zoology	$\frac{1}{2}$ or I	unit
Botany	$\frac{1}{2}$ or I	unit
Physiology	$\frac{1}{2}$	unit
Geology	$\frac{1}{2}$ or I	unit
Astronomy	$\frac{1}{2}$ or I	unit

Free-hand drawing	}	The Entrance Board may, after investigating each claim, grant a total credit of not to exceed	4 units
Manual Training			
Domestic Science			
Commercial Subjects			

ADMISSION BY CERTIFICATE

Unconditional admission is granted to all graduates of first grade high schools whose certificates cover fifteen units. Other applicants may be admitted without examination on presentation of properly indorsed certificates from such secondary schools as have been accredited or recognized by the University, or from approved normal schools, or from the State Board of School Examiners under the following provisions:

If from secondary schools, the certificate must show that the applicant is a graduate in good standing of the school issuing it; and also must state in detail the studies pursued, the text-books used, the amount of work done in each study, the amount of time devoted to it, and the fact that the applicant has passed in the work.

Blank certificates may be obtained by addressing the Secretary of the Entrance Board. Certificates should be filled out and returned to the University by the proper school official as early as possible after the close of schools in June.

No student under twenty-one years of age will be admitted on certificate if he is conditioned in more than two of the fifteen units. All entrance conditions must be removed within two years after admission.

Students over twenty-one years of age are admitted in accordance with the provisions stated under "Admission to Special Studies."

The extent and character of the work in each subject mentioned above is explained in a special bulletin, entitled "Definition of Entrance Units," which will be sent to any address upon request. In

general, it may be stated that the definitions of the North Central Association of Colleges and Secondary Schools are accepted as the definitions of the University.

REMOVAL OF ENTRANCE CONDITIONS

Entrance conditions may be removed (1) by examination conducted only by the Entrance Board; or (2) by the substitution by the Entrance Board of excess work in other approved subjects; or (3) by the substitution of other work of equivalent amount to be done in the University; and it shall be the duty of the secretaries in their respective colleges to assign to each student having entrance conditions outstanding at the end of the freshman year such college courses for the following years as may be deemed a fair equivalent for the work in which the student has entrance conditions. But a student who is taking or has completed a collegiate course is not eligible for entrance examinations upon the same topic, unless it is a fixed requirement in the college in which he is registered. (Faculty Rule 97.)

ADMISSION WITH ADVANCED STANDING

Applicants who have completed at least one year's work of collegiate rank in an approved college, and who bring to the Entrance Board official and explicit certificates describing their courses of study and scholarship, and letters of honorable dismissal, will be admitted in accordance with either of two plans:

(1) The entrance units on which the candidate was admitted to the approved college will be accepted at their face value; deficiencies will be made up from the college credits presented, and advanced credit will be given for any remaining satisfactory work; or

(2) One year's work will be accepted in lieu of entrance units and the candidate will be admitted without examination and without conditions, but without any advanced standing on the year's work.

Applicants who have completed less than one year's work in an approved college must satisfy the entrance requirements in the usual way, and will then be given credit for any satisfactory work for which they can offer certificates.

ADMISSION TO SPECIAL STUDIES

Students who desire to pursue special lines of work and do not desire to become candidates for a degree, will be admitted on the following conditions:

1. The regular entrance requirements must be satisfied.

2. But applicants who are not less than twenty-one years of age, after obtaining credit for the common English branches and for such other subjects as may be necessary to qualify them for the classes that they wish to enter, may, on the presentation of satisfactory reasons, be admitted to any class in the college; provided, that if any student who has been admitted on these conditions afterwards becomes a candidate for a degree, he shall pass the omitted entrance examinations at least twelve months before the degree is conferred.

3. Before entering the college, pupils desiring to pursue special work are required to lay before the Executive Committee for approval or modification, a written statement of the end they have in view, the studies proposed for the attainment of that end, and the probable period of attendance. Such students will be held as strictly to their accepted schemes of work as are the regular undergraduates to the course of study.

4. Permission to enter as special undergraduates will be refused to all who fail to give satisfactory evidence of definiteness of purpose, and will be withdrawn whenever the conditions on which it was granted cease to exist.

5. The privilege of admission to special studies is granted only by the concurrent action of the Executive Committee and the Entrance Board.

REQUIREMENTS FOR GRADUATION

The Group Elective System

The work of the College of Arts, Philosophy, and Science is organized on the group elective system. A part of every student's curriculum is prescribed by the regulations given below. Each student is required to lay sufficiently broad foundations in English, other languages, the sciences, history, or economics, and in mathematics, philosophy, or psychology. The remainder of the student's work is elective.

On satisfactory completion of 120 semester hours in addition to Military Drill and Physical Education, under the regulations prescribed below, the student will be recommended for the degree of Bachelor of Arts.

The departments in which credit may be obtained are arranged in the following four groups:

(A) Languages and Literatures

English, German, Greek Language and Literature, Latin Language and Literature, Romance Languages and Literatures.

(B) Natural Sciences

Anatomy and Physiology, Astronomy, Bacteriology, Botany, Chemistry, Geology, Physics, Zoology and Entomology.

(C) Social Sciences

American History, Economics and Sociology, European History, Political Science.

(D) Mathematics—Philosophy

Mathematics, Philosophy, Psychology.

Courses Open to Freshmen

The following are the only courses open to Freshmen:

English 101-104, 2 credit hours; English 131-134 (or 132-133), 3 credit hours.

French 101-102, 4 credit hours; French 103-104 (for students who enter with two units in French), 4 credit hours; French 107-112, (for students who enter with four units of French), 2 or 3 credit hours.

German 101-102, 4 credit hours; German 103-104 (for students who enter with two units in German), 4 credit hours; German 107-108 (for students who enter with four units of German), 4 credit hours.

Greek 101-102, 4 credit hours; Greek 105-106 (for students who enter with two units in Greek), 4 credit hours.

Latin 101-102 (for students who enter with three or four units in Latin), 4 credit hours.

Latin 147-148 (for students who enter with no Latin).

Latin 149-150 (for students who enter with two units of Latin.)

Spanish 101-102, 4 credit hours; Spanish 103-104 (for students who enter with two units in Spanish), 4 credit hours.

Botany 101-102, 4 credit hours.

Zoology 101-102, 3 credit hours.

Astronomy 101-102, 3 credit hours.

Chemistry 105-106, four credit hours; Chemistry 109-110 (for students who enter with one unit in Chemistry), 4 credit hours.

Geology 101-102, 3 credit hours.

Physics 103-104, 4 credit hours, Physics 105-106 (for students who enter with one unit in Physics), 4 credit hours.

American History 101-102, 3 credit hours.

Economics 131-134, 3 credit hours.

European History 101-102, 3 credit hours.

Mathematics 121-122, 3 credit hours; Mathematics 131-132, 5 credit hours; Mathematics 123-124, 1 credit hour.

Mathematics 103-104 (for students who enter without Mathematics).

Philosophy 101-102, 3 credit hours.

Psychology 101-102, 3 credit hours.

Drill; Gymnasium.

REGULATIONS

1. Cadet service is required of all men during the first and second years.

Physical education is prescribed for all men during the first year and for all women during the first and second years.

2. Group Requirements:

(A) Languages and Literatures:

(1) English composition, four hours, must be taken by all students. English literature, three hours, must also be taken by those students who have not credit for three entrance units in English.

(2) In high school and college together the student must secure credit in at least two languages other than English. For those who enter with six units in languages other than English, the college requirement is eight hours; for those with five units, twelve hours; four units, sixteen hours; three units, twenty hours; two units, twenty-four hours; one unit, twenty-eight hours; no units, thirty-two hours. The student may not offer less than a year's work in any foreign language.

(B) Natural Science:

(1) Every student is required to secure credit for at least six semester hours in one biological science (Botany, Physiology, Zoology, or Bacteriology); but students who enter with one unit in Botany or one unit in Zoology are excused from this requirement.

(2) Every student is required to secure credit for at least twelve semester hours in non-biological science (Astronomy, Chemistry, Geology, or Physics), of which at least a one-year course shall be in Chemistry, or Physics; but for students who enter with a unit of either Chemistry or Physics, the requirement is six semester

hours in one of the sciences in this group, and students who enter with one unit in Chemistry and one unit in Physics are excused from the non-biological science requirement.

(C) Social Sciences:

Every student is required to secure credit for at least twelve semester hours in the Social Science Group, of which at least six semester hours shall be in European or American history; but for students who offer one or more units of history for entrance the requirement is six semester hours in one of the Social Sciences.

(D) Mathematics, Philosophy, Psychology:

Every student must secure credit either in high school, or in college for Algebra through Quadratics, and for Plane Geometry. He must in addition secure credit in college for six semester hours in Mathematics, or Philosophy, or Psychology.

3. Maxima and Minima: At least 36 hours of the 120 hours required for the degree must be in some one of the groups mentioned above, and at least 18 in some other one of the groups mentioned above. In no one of the groups may more than 60 hours be credited for the degree, exclusive of the requirements noted above.

4. Courses open to freshmen: At least 36 hours of the 120 hours required for the degree must be in courses not open to freshmen. (Courses open to freshmen, if elected by seniors, give credit diminished by one hour.)

5. Amount of Work: Each year's work must consist of 15 or 16 hours work each semester. On petition to the Executive Committee a student who shows exceptional proficiency may take from one to three extra hours, but in no case will more than 18 hours be permitted. No extra hours will be granted to the first-year student or to a student having conditions outstanding.

6. Work in other Colleges: Any student, after completing sixty hours of work in the College of Arts, Philosophy, and Science, may, upon petition, elect not to exceed five hours a semester during the remaining two years from work offered in any other college, except the College of Law.

RULE GOVERNING ELECTIONS

Each student enrolled in the College of Arts, Philosophy, and Science must file at the Registrar's office not later than June 1 of each year a complete statement of the courses he wishes to enter the following year. Blanks for this purpose may be obtained of the Registrar.

FEE FOR CHANGES IN SUBJECTS OR SCHEDULE

After five days from each registration day, changes in subjects or schedule, if made at the request of the student, shall be made only upon the payment of a fee of \$1.00 for each change.

STUDENT ADVISERS

The Faculty of Arts, Philosophy, and Science has provided a system of advisers, the chief objects of which are: (1) to assist the undergraduates in choosing studies that will result in a well-rounded course and will achieve most economically the purpose which the student has in view in his course; (2) to promote closer personal relations between student and instructor and thus to aid the student, so far as possible, in all matters connected with his University life. On entering the University each student is assigned by the Executive Committee to a temporary adviser to whom he is cordially invited to resort for counsel as often as the need arises. Before the close of the year, each student chooses a permanent adviser. Each student is required to secure the signature of his adviser to his election card in June of each year, and to petitions, at any time during the year, for a change in work or for increase or diminution of work.

THE ARTS-LAW COURSE

Students desiring the degree of Bachelor of Arts in the College of Arts, Philosophy, and Science, and the degree of Bachelor of Laws in the College of Law, may, by complying with the regulations below, obtain the two degrees in six years.

On satisfactory completion of the three years' work, comprising ninety-three semester hours, in the College of Arts, Philosophy, and Science, and the first year of the course in the College of Law of this University, under the usual regulations governing work in each of the two colleges (except as indicated below), the student will be recommended for the degree of Bachelor of Arts.

All regulations applying to students in the College of Arts, Philosophy, and Science apply in the combined Arts-Law course except as modified by the following statements:

1. No student is eligible for the combined Arts-Law course who has not been a student in the College of Arts, Philosophy, and Science of this University at least one full year. Students entering the College of Arts, Philosophy, and Science with advanced standing will be held to the requirements as strictly as other students.

2. At least thirty-three of the ninety-three semester hours of Arts College subjects required for the degree in Arts must be in the Social Sciences Group and eighteen in some other one group. In no one of the groups may more than forty hours be credited for the degree, exclusive of the requirements made in Regulations 2, 3, 4, and 5, page 18.

3. At least thirty-six of the ninety-six hours of Arts College subjects required for the degree must be in courses not open to freshmen.

4. Business Law (Economics 143) may not be counted towards the degree in the combined Arts-Law course.

5. In order to have the first year of the course in Law counted towards the Arts degree, the student must have maintained a uniform record of good scholarship in the College of Arts, Philosophy, and Science, and have completed the entire requisite ninety-three hours of work in that college before the work in the College of Law is entered upon. He must also maintain good scholarship in the course in Law. The question of the applicant's eligibility to the combined course will be determined by the Executive Committee of the Arts College.

The work of all students taking studies in the two colleges at the same time is under the jurisdiction of a joint committee, consisting of the Dean and Secretary of the College of Arts, Philosophy, and Science and of the College of Law.

THE ARTS-EDUCATION COURSE

Two Degrees

Students who have received credits for one hundred and forty hours and who have met all requirements, both for a degree in the College of Arts, Philosophy, and Science, and for a degree in the College of Education, will be granted the degree of Bachelor of Arts by the former college and the degree of Bachelor of Science in Education by the latter college. Applicants for both degrees must register in both colleges.

THE ARTS-ENGINEERING COURSE

The entrance requirements for the combined course shall be the same as for the College of Arts except that one unit of Physics is required.

A candidate for the degree of Bachelor of Arts, while registered in the College of Arts, Philosophy, and Science, may also register in the College of Engineering, provided that at the time of seeking such registration in the College of Engineering he has ninety semester hours to his credit in the College of Arts, Philosophy, and Science, exclusive of the credit hours in Military Drill and Physical Education, and including the following subjects:

Mathematics, 131, 132, 141, 142, 20 hours; Chemistry, 105 and 106, or 109 and 110, 8 hours; Modern Language, French, German, or Spanish, 16 hours; English 101 and 104, 4 hours; Social Science, 6 hours; Biological Science, 6 hours; Physics, 113 and 114, 10 hours; Engineering Drawing, 101 and 102, 5 hours; Arts Electives, 15 hours: total 90 hours.

Eighty semester hours of the above work shall be in those subjects mentioned in the four groups (see page 16).

When the candidate has obtained 124 semester hours in the two colleges exclusive of Military Drill and Physical Education, 100 semester hours of which shall be subjects accepted by the Arts College, the candidate shall receive the degree of Bachelor of Arts. This will ordinarily be at the end of one year's residence in the College of Engineering. At least six semester hours, other than Mechanics, of the above mentioned 100 hours, must have been earned during the first year of residence in the College of Engineering. At the end of two more years, by doing the regular amount of work, the candidate will have completed the requirements for any one of the Engineering degrees, and will be recommended for the appropriate degree.

PREMEDICAL COURSES

Students preparing for the study of medicine are permitted to select their work for the first two years from the following subjects: English, Modern Language, History, Psychology, Mathematics, Physics, Chemistry, and Zoology. Such students should make known to the Executive Committee their intentions, immediately upon admission to the University.

ANNOUNCEMENTS OF DEPARTMENTS

AMERICAN HISTORY

Office, Room 207, University Hall

PROFESSOR KNIGHT, PROFESSOR HOCKETT, MR. SCHLESINGER

101-102. History of the United States (1763-1912). Three credit hours. The year. Mr. Knight, Mr. Hockett, Mr. Schlesinger. 101 is repeated in the second semester.

This course comprises a study of the history of the United States, in which political, constitutional, and economic phases receive chief attention. The first semester covers the period 1763-1829. The second semester treats the period 1829-1912. Text-book, discussion, and collateral readings. This course must precede all other courses in American History.

107-108. Constitutional History of the United States. Two credit hours. The year. Mr. Hockett.

A careful study of the origin and growth of the federal constitution. Beginning with a brief study of the constitutional ideas of Americans in the revolutionary period, the course studies the formation of the constitution by the convention of 1787, and follows its development as interpreted by the executive, congress, and the courts in dealing with such questions as the acquisition of territory, internal improvements, the tariff, United States Bank, slavery, relations of the nation and the states. Lectures, quiz, and reports.

Prerequisite, American History 101-102. Political Science 101-102 will be found a valuable adjunct to this course.

109-110. Political Parties in the United States. Two credit hours. The year. Mr. Schlesinger.

The first semester will deal with the radical party of the American Revolution; the development of parties under the Constitution (1789-1860); the relation of economic and social forces to political parties; the influence of newspapers in shaping public opinion; the services of typical party leaders. The second semester will continue this plan for the period 1860-1912, emphasis being placed upon the new economic and social conditions which gave rise to new parties and policies. Lec-

tures, quiz, and research in contemporary newspapers and other material. Given biennially, alternating with Course 125-126.

Prerequisite, American History 101-102.

For Graduates and Advanced Undergraduates

For all courses in this group, the prerequisite is four semesters in the Social Sciences group, of which at least two must be in American History.

103-104. The American Colonies, 1600-1783. Three credit hours. The year. Mr. Hockett.

A course in the general history of the English colonies in America, with especial emphasis on European conditions affecting colonization, the development of government in the several colonies, and relations with the mother country. Lectures, quiz, and reports. Given biennially alternating with Course 115-116.

Prerequisite, American History 101-102, and at least two other semesters in the Social Sciences group. Courses in European History, 103-104, or 102, while not required, will be found helpful in preparation for or in connection with this course.

111. The Slavery Struggle to 1854. Three credit hours. First semester. Given biennially, alternating with Course 113. Mr. Knight.

112. The Slavery Struggle and its Results, 1854-1900. Three credit hours. Second semester. Given biennially, alternating with Course 114. Mr. Knight.

Courses 111 and 112 comprise a detailed study of the development of slavery in its connection with and influence upon the constitutional and political history of the country, the rise and fall of parties, and the divergence of the sections; its relation to the Civil War; the results of the struggle traced in the reconstruction of the southern states and the readjustment of society and the states to the new status of the negro. Lectures, quiz, and reports. Prerequisite, American History 101-102, and at least two other semesters in the Social Sciences group.

***113. The History of American Diplomacy, 1776-1850.** Three credit hours. First semester. Given biennially, alternating with Course 111. Mr. Knight

***114. American Diplomatic History and Problems Since 1850.** Three credit hours. Second semester. Given biennially, alternating with Course 112. Mr. Knight.

*Not given in 1914-1915.

Courses 113 and 114 comprise a systematic study of the diplomacy and foreign relations of the United States; the birth, evolution, and variations of the foreign policy of the country in territorial, commercial, and continental subjects, with a consideration of recent important diplomatic problems in this field. Lectures, quiz, and reports. Prerequisites, American History 101-102 and at least two other semesters in the Social Science group. Political Science (126) is especially helpful tho not necessary.

***115-116. The History of the West.** Three credit hours. The year. Mr. Hockett.

This course studies the westward advance of population since early colonial times, dealing with the causes of the movement, conditions affecting it, the development of new communities, and the influence of this western growth upon national history and institutions. The course is essentially a study of the growth of American society. Lectures, quiz, and assigned readings. Given biennially, alternating with Course 103-104. Prerequisites, American History 101-102 and at least two other semesters in the Social Sciences group.

119-120. Proseminar in Political History. Two credit hours. The year. Prerequisite, four semesters in American History. Mr. Hockett.

The work of the Proseminar consists of practise in simple historical methods, such as the collecting and criticising of material, and its use in historical composition. Each student is required to prepare topics involving the use of source material.

123-124. Recent History of the United States, 1870-1910. Three credit hours. The year. Mr. Knight.

An intensive study of the political, constitutional, industrial, and social life of the nation and the states during the past generation; it includes a consideration of new applications of the constitution, industrial development, territorial expansion, the entry of the United States into the world politics, third party movements, and the rise of the new democracy. Lectures and individual investigation. Prerequisites, American History 101-102 and at least two other semesters in the Social Sciences group. Economics 135-136 will be found a valuable adjunct to this course.

***125-126. The History of Latin America.** Two credit hours. The year. Mr. Schlesinger.

The first semester will deal with the Spanish colonial empire (1492-1800). The second semester will comprise a study of the wars

*Not given in 1914-1915.

for independence and the political development of the Latin American republics in the nineteenth century. Lectures, quiz, and reports. Given biennially, alternating with Course 109-110. Prerequisites:—American History 101-102, and at least two other semesters in the Social Sciences group.

For Graduates

***201. Reconstruction of the South, 1862-1870.** Two credit hours. First semester. Mr. Knight.

An intensive study of the reconstruction era, the action of the national executive and congress, and the installation of the reconstructed state governments.

***202. Political History of the South, 1870-1900.** Two credit hours. Second semester. Mr. Knight.

A detailed study of the career of the reconstructed state governments, the failure and undoing of the reconstruction policy, and the influence of the era upon national history.

205-206. Graduate Seminar. Two credit hours. The year. Mr. Knight.

The field of investigation and cooperative study for 1914-1915 will be the administrations of Cleveland and Harrison.

ANATOMY AND PHYSIOLOGY

Office, Room 12, Biological Hall

PROFESSOR BLEILE, ASSOCIATE PROFESSOR SEYMOUR, ASSISTANT PROFESSOR DURRANT, MR. ALLEN

101-102. Human Anatomy and Physiology. Three credit hours. The year. Not open to freshmen. Must be preceded by a course in chemistry. Mr. Bleile, Mr. Seymour, Mr. Durrant, Mr. Allen.

119-120. General Physiology. Three credit hours. The year. Not open to freshmen. Arranged for students who have no credit in chemistry. Mr. Bleile.

(Students who have had chemistry will elect Course 101-102.)

104. Chemical Physiology. Three credit hours. Second semester. Mr. Bleile. Prerequisite, Course 101-102.

105-106. Histology and Histo-Chemistry. Five credit hours. The year. Mr. Bleile, Mr. Seymour, Mr. Durrant.

*Not given in 1914-1915.

For Advanced Undergraduates and Graduates

109-110. Physiological Laboratory. Three credit hours. The year. Mr. Bleile.

111-112. Physiological Laboratory. Five credit hours. The year. Mr. Bleile.

115. Advanced Physiology. Circulation, digestion, and respiration. Three credit hours. First semester. Prerequisite, Physiology 101-102. Mr. Bleile.

118. Advanced Physiology. The nervous system. Three credit hours. Second semester. Prerequisite, Physiology 101-102. Mr. Seymour.

Exclusively for Graduates

201-202. Advanced Physiology. Three credit hours. The year.

203-204. Advanced Physiology. Five credit hours. The year.

ANCIENT ART

See Greek Languages and Literature

ASTRONOMY

Office, Emerson McMillin Observatory

PROFESSOR LORD, ASSOCIATE PROFESSOR MANSON

101-102. General Astronomy. Three credit hours. The year. Mr. Manson.

104-105. Astronomy, Geodesy, and Least Squares. Three credit hours. The year. Mr. Lord, Mr. Manson.

This course begins in the second semester and continues through the first semester of the following year. Prerequisite, the calculus.

107-108. Advanced Astronomy. Three to five credit hours. The year. Prerequisite, the calculus. Mr. Lord, Mr. Manson.

109-110. The Theory of Lenses. Four credit hours. The year. Prerequisite, the calculus. Mr. Lord.

A course in applied optics, beginning with the Gaussian theory of lenses and followed by a complete discussion to terms of the second order of spherical aberration, central and oblique refraction, coma (Von Seidel's second condition), distortion, and achromatism. Supplemented with laboratory practise in the design and construction of simple photographic lenses.

BACTERIOLOGY

Office, Veterinary Laboratory Building

PROFESSOR MORREY, PROFESSOR MCCAMPBELL, ASSISTANT
PROFESSOR STARIN, AND DEPARTMENT ASSISTANTS

These courses in Bacteriology are open to advanced undergraduates and graduate students only. The instructor in charge must be consulted before electing.

107. General Bacteriology. Three to five credit hours. First semester. Mr. Morrey, Mr. Starin, Mr. Hufnagel, Miss McCoy.

Making of media, cultures, staining methods, physiological properties.

108. Pathogenic Bacteria. Three to five credit hours. Second semester. Prerequisite, Course 107. Mr. Morrey, Mr. Starin, Mr. Hufnagel, Miss McCoy.

114. Water Examination, Sewage Disposal, Water Filtration. Three to five credit hours. Second semester. Prerequisite, Course 107. Mr. Morrey.

116. Bacteriological Chemistry. (Enzymes). Three to five credit hours. Second semester. Prerequisite, Course 107. Mr. Morrey.

117-118. Immunity and Serum Therapy. Three to five credit hours. The year. Prerequisite, Courses 107 and 108 or equivalents. Mr. Starin.

Preparation of toxins, antitoxins, and vaccines and immune serums.

119-120. Pathogenic Protozoa. Three to five credit hours. The year. Two lectures, two to six hours laboratory work. Prerequisite, Courses 107 and 108 or equivalents. Mr. Starin.

125-126. Special Problems in Bacteriology. Three to five credit hours. The year. Conferences, library and laboratory work. Prerequisite, one year's work in Bacteriology. Mr. Morrey, Mr. Starin.

BIBLICAL LITERATURE, HISTORY, AND EXEGESIS

Office, Orton Hall

PROFESSOR BREYFOGLE

101. Biblical Literature. History and religion in outline. Three credit hours. First semester. A consideration of the literature, history, and religion of the Old Testament. Lectures, quiz, and reports.

This is a general course touching upon the historical crises of the Old Testament, with an attempt to recreate the political, economic, and social conditions as a basis for the better understanding of the moral and religious teachings. A stereopticon will be used, showing the latest discoveries in Palestine, Egypt, and Assyria which bear upon our period.

102. Historical Christianity in Outline. Three credit hours. Second semester. A consideration of Judaism, of the life, work, and teachings of the Founder of Christianity, and of Apostolic teaching.

This course is intended to give the student a systematic knowledge of the New Testament in its historical setting. It will consider the relation of Christianity to Hellenic Judaism, the teachings of Jesus as shown by a comparison of the gospels, and the expansion of Christianity throughout the world during the Apostolic times. Stereopticon views will be freely used and an endeavor made to familiarize the student with the text.

***103-104. The History of Religion in Outline.** Three credit hours. The year. A consideration of the great book religions of the world. Lectures, quiz, and reports.

BIBLIOGRAPHY

Office, Library

MISS JONES, MR. REEDER

105-106. Bibliography for the Social Sciences. One credit hour. The year. In order to take this work any one of the courses in the Social Sciences group must have been completed, and an additional course in the group must be carried at the same time. Mr. Reeder.

This course covers the use of library catalogues, magazine indexes, reference books, and national, state, and municipal documents, which form the basis of advanced work in courses given by the departments of American History, Economics, and Sociology, Political Science, and European History. Lectures and problems.

*Not given in 1914-1915.

BOTANY

PROFESSOR SCHAFFNER, ASSISTANT PROFESSORS GRIGGS AND
DACHNOWSKI, DR. DETMERS, MR. STOVER

101-102. General Botany. Four credit hours. The year. Textbooks, Curtis's Nature and Development of Plants (2nd edition), Schaffner's Laboratory Outlines for General Botany (3rd edition). Mr. Schaffner, Mr. Griggs, Miss Detmers, Mr. Stover.

This course gives a general survey of the plant kingdom by the comparative method of morphological types and life cycles. It is intended to present a general view of the morphology, evolution, and classification of plants from the lowest to the highest.

110. General Dendrology. Two credit hours. Second semester. Text-book, Schaffner's Field Manual of Trees. Mr. Schaffner, Mr. Brown.

A study of trees and shrubs with practise in the identification of woody plants, in both summer and winter condition. Students are required to prepare a dendrological herbarium.

113. Morphology of the Higher Fungi, Three credit hours. First semester. One lecture and two laboratory periods. Prerequisite, Botany 101-102. Mr. Stover.

A study of the forest fungous flora, both fleshy and woody forms, with special reference to edible and poisonous mushrooms and to the wood-destroying species.

116. Plant Pathology. Three credit hours. Second semester. Lecture and laboratory. Prerequisite, Botany 101-102 or equivalent. Text-book, Stevens and Hall's Diseases of Economic Plants. Mr. Stover.

117-118. Forest Ecology. Four credit hours. The year. Lectures and laboratory. Prerequisite, Botany 101-102 or equivalent. Mr. Dachnowski.

120. Field Botany. Two credit hours. Second semester. Saturdays. Prerequisite, general botany. Mr. Griggs.

121. Plant Genetics, Two credit hours. First semester. One lecture, one laboratory period. Prerequisite, Botany 101-102 and one additional year of some biological subject. Students electing this course should also take Zoology 129. Mr. Schaffner.

In this course the foundation principles of plant genetics are considered, including a study of fertilization and reduction, hybridization, Mendelian laws, fluctuations, and mutations, together with practical methods of procedure in crossing both lower and higher plants.

123-124. Advanced Morphology. Three to five credit hours. The year. Prerequisite, Botany 101-102 or equivalent. Mr. Griggs. This course is intended to complete the morphological training begun in the first year. It includes instruction in microtechnique. Whenever possible, this course should be accompanied by Botany 135-136.

125-126. Plant Physiology. Four credit hours. The year. Lectures and laboratory. Prerequisite, Botany 101-102 or equivalent. Mr. Dachnowski.

The course is an experimental study of the soil, air, and biotic relations of plants. It aims to give training and instruction in such phases of nutrition, growth, movement, and the tropisms of plants as have a practical bearing in agriculture, forestry, and general biology.

135-136. Evolution of Plants. One credit hour. The year. Prerequisite, one year course in botany. Mr. Schaffner.

A presentation of the progress of evolution in the plant kingdom, with a general discussion of the problems and factors involved, including both the scientific and philosophical aspects of the subject.

For Advanced Undergraduates and Graduates

127-128. General Plant Pathology. Four credit hours. The year. Laboratory and field work. Prerequisite, Botany 101-102 or equivalent. Stevens' Fungi, and Stevens and Hall's Diseases of Plants. Mr. Griggs.

129-130. Systematic Botany. Three to five credit hours. The year. Prerequisite, Botany 101-102 or equivalent. Mr. Schaffner.

A thorough study of the organography of the flowering plants from the standpoint of evolution, including a special consideration of phyletic series, probable relationships, the significance of vestiges, specializations and adaptations, and the development of a correct taxonomy.

131-132. Cytology and Microtechnique. Three to five credit hours. The year. Prerequisite, Botany 123-124 or equivalent. Mr. Schaffner.

133-134. Minor Investigations. Three to five credit hours. The year. Prerequisite, Botany 101-102 or equivalent. Mr. Schaffner, Mr. Griggs, Mr. Dachnowski, Mr. Stover.

137-138. Seminar in Botany. One credit hour. The year. Prerequisite, two years' work in botany.

This course should be elected only in connection with other advanced courses.

139-140. Advanced Mycology. Three to five credit hours. The year. Prerequisite, Botany 127-128 or equivalent. Mr. Griggs, Mr. Stover.

For Graduates

201-202. Research in Systematic Botany. Three to ten credit hours. The year. Laboratory open daily. Mr. Schaffner, Mr. Griggs.

203-204. Research in Morphology and Cytology. Four to ten credit hours. The year. Laboratory open daily. Mr. Schaffner, Mr. Griggs.

205-206. Research in Physiology and Ecology. Four to ten credit hours. The year. Laboratory open daily. Mr. Dachnowski.

207-208. Research in Mycology. Three to ten credit hours. The year. Laboratory open daily. Mr. Griggs, Mr. Stover.

CHEMISTRY

Office, Room 100, Chemistry Hall

PROFESSOR MCPHERSON, EMERITUS PROFESSOR NORTON, PROFESSORS
HENDERSON, FOULK, EVANS, AND WITHROW, ASSISTANT
PROFESSOR LONG, DR. BOORD, AND DEPARTMENT
ASSISTANTS

For Undergraduates

105. Elementary Chemistry. Four credit hours. First semester. Mr. Evans, Mr. Day, Mr. Holler.

A general course on the chemistry of the non-metals, arranged for students who have not presented chemistry as an entrance requirement. Students taking this course will follow with Course 106, second semester.

106. Elementary Chemistry and Qualitative Analysis. Four credit hours. Second semester. Prerequisite, Course 105. Mr. Evans, Mr. Day, Mr. Holler.

A general course on the chemistry of the metals. The laboratory work accompanying is a general introductory course in qualitative analysis.

109. General Chemistry. Four credit hours. First semester. Mr. Evans, Mr. Hockett, Mr. Schmidt, Mr. Hummel.

A general course on the chemistry of the non-metals. It is more advanced than Course 105 and is arranged for students who have had

an acceptable course in elementary chemistry in a secondary school. Students taking this course will follow with Course 110, second semester.

110. General Chemistry and Qualitative Analysis. Four credit hours. Second semester. Mr. Evans, Mr. Hummel, Mr. Schmidt, Mr. Hockett.

A general course on the chemistry of the non-metals. It is more advanced than Course 106. The laboratory work is a general course in qualitative analysis.

113-114. Advanced General Chemistry. Two credit hours. The year. Prerequisite, Chemistry 106 or 110. Mr. Henderson.

A course of fundamental topics in the field of advanced general chemistry.

117. Qualitative Analysis. Elementary course. Three credit hours. First semester. One lecture and six hours laboratory work weekly. Prerequisite, an acceptable course in general chemistry. Mr. Long.

Designed especially for students who enter with credits in general chemistry, but who have had no experience in qualitative analysis.

119-120. Quantitative Analysis. Four credit hours. The year. One lecture, 9 hours laboratory work weekly. Laboratory open M., Tu., Th., F., 8 to 12. Prerequisite, Course 106 or 110 or equivalent. Mr. Foulk, Mr. Long.

First semester, elementary principles of gravimetric and volumetric analysis. Second semester, continuation of work of first semester with typical analytical methods, gravimetric and volumetric. This course must be accompanied by Course 124, except by special permission of the instructor. It is also desirable that it be accompanied by Course 113-114.

124. Chemical Problems. One credit hour. Second semester. Mr. Foulk.

Extended practise in the solution of problems pertaining to gravimetric and volumetric analysis. This course is arranged to accompany Course 119-120.

136. The Reading of Chemical Literature. Two credit hours. Second semester. Prerequisite, one year of German. Mr. Foulk.

The object of this course is to afford practise in the rapid reading of German chemical literature, the selections being made with special reference to the technical terms of the science.

151-152. Organic Chemistry. Two credit hours. The year. Prerequisite, Courses 109, 110; also 113-114 and 119-120, except and by special permission of the instructor. Mr. McPherson.

This is a general course in organic chemistry.

153-154. Organic Chemistry. Two or three credit hours. The year. Six or nine hours laboratory work weekly. Laboratory open afternoons. This course must be accompanied or preceded by Course 151-152. Mr. McPherson, Mr. Boord.

A general course in the preparation of typical organic compounds.

187. Inorganic Preparations. Two or three credit hours. First semester. Six to nine hours laboratory work weekly. Laboratory open afternoons. Prerequisite, Chemistry 113-114. Mr. Henderson.

A course in the preparation of a limited number of compounds chosen so as to give practise in the different kinds of manipulation involved in the preparation of inorganic compounds.

188. Inorganic Preparations. Two or three credit hours. Second semester. Laboratory open afternoons. Repetition of Course 187. Mr. Henderson.

For Advanced Undergraduates and Graduates

157-158. Physical Chemistry. Three credit hours. The year. Prerequisite, Courses 113-114, 119-120, and 151-152, except by special permission of the instructor. Mr. Henderson.

This is a general course in physical chemistry.

161. Physical Chemistry. Two or three credit hours. First semester. Six to nine hours laboratory work weekly. Prerequisite, or concurrent, Chemistry 157-158. Mr. Henderson.

An elementary course in physico-chemical measurements.

162. Physical Chemistry. Two or three credit hours. Second semester. Repetition of Chemistry 161. Mr. Henderson.

165. Quantitative Analysis. Advanced course. Two credit hours. First semester. Two recitations. Prerequisite, Chemistry 119-120 or equivalent. Mr. Foulk.

A general survey of the methods of quantitative analysis.

167. Special Methods of Analysis. Three to five credit hours. First semester. One lecture and six to twelve hours laboratory work weekly. Selections may be made from gas analysis, microchemical analysis, and spectrum analysis. Prerequisite, Chemistry 119-120. Not given in 1913-1914.

168. Qualitative Analysis. Advanced course. Second semester. Three to five credit hours. Six to twelve hours laboratory work

weekly. Prerequisite, Chemistry 119-120 or equivalent. Mr. Foulk.

Extended work in general qualitative analysis including the more important of the rarer elements.

169. Quantitative Analysis. Advanced course. Three to five credit hours. First semester. One conference and six to twelve hours laboratory work weekly. Prerequisite, Chemistry 119-120 or equivalent. Mr. Foulk.

A laboratory course in advanced quantitative analysis.

176. Sanitary Analysis. Three credit hours. Second semester. Three hours laboratory work weekly. Laboratory open forenoons and afternoons. Prerequisite, Chemistry 119-120 or equivalent. Mr. Long.

A study of the methods of sanitary water analysis and the interpretation of results.

177. Industrial Chemistry. Two credit hours. First semester. Prerequisite, Chemistry 113-114 and 153. Mr. Withrow.

A general course in the principles underlying the application of chemistry in the industries.

178. Industrial Chemistry. One credit hour. Second semester. A continuation of Chemistry 177. Mr. Withrow.

185. Industrial Chemistry. Two credit hours. First semester. One hour conference, and five hours laboratory work weekly. Prerequisite, Chemistry 119-120, and must be accompanied or preceded by Chemistry 177-178. Mr. Withrow.

Industrial chemical research.

186. Industrial Chemistry. Three credit hours. Second semester. One hour conference, and eight hours laboratory work weekly. A continuation of Chemistry 185. Mr. Withrow.

In the latter portion of the semester the study of methods for the analysis of industrial products is undertaken.

192. Rare Elements. Two credit hours. Second semester. Prerequisite, Chemistry 119-120 and 113-114. Given in 1914-1915 and biennially thereafter. Mr. Henderson.

A general course on the chemistry of the rare elements, including a discussion of their increasing economic importance.

194. Applied Electro Chemistry. Two credit hours. Second semester. Prerequisite, Chemistry 157-158, except by special permission of the instructor. Mr. Withrow.

A descriptive course covering the application of the electric current in the chemical industries.

196. Inorganic Chemistry. Two credit hours. Second semester. Two lectures weekly. Prerequisite, Chemistry 157-158. Given in 1914-15 and biennially thereafter. Mr. Henderson. A general discussion of some topic in the field of inorganic chemistry. Since the topic changes from year to year, the course may be elected in different years by the same student.

Exclusively for Graduates.

201-202. Physical Chemistry. Three credit hours. The year, or may be elected either semester separately. Nine hours laboratory work weekly. Prerequisite, Chemistry, 157-158 and 161 or 162. Mr. Henderson.

A general course in physico-chemical measurements.

205-206. Organic Chemistry. Advanced course. Three to five credit hours. The year. Library, conference, and laboratory work. Prerequisite, Chemistry 153-154, except by special permission of the instructor. Mr. McPherson, Mr. Boord.

Special attention is given to the preparation of organic compounds with reference to yield and purity of products. Extended practise is also given in the quantitative determination of the elements present in organic compounds.

209-210. Inorganic Preparations. Three credit hours. The year. Library and laboratory work. Prerequisite, Chemistry 187 or 188. Mr. Henderson.

This is an advanced course dealing largely with the preparation and the study of a series of compounds of certain rare metals, or of more unusual types of compounds presenting experimental difficulties.

213. Historical Chemistry. Two credit hours. First semester. Given in 1914-15 and biennially thereafter. Mr. Henderson.

A general advanced course in historical chemistry.

215. Organic Chemistry. Two credit hours. First semester. Two lectures weekly. Prerequisite, Chemistry 205-206. Given in 1914-15 and biennially thereafter. Mr. McPherson.

A general discussion of some important topics in organic chemistry. The subject for 1914-15 will be "Isomerism."

218. Organic Chemistry. Two credit hours. Second semester. Two lectures weekly. Prerequisite, Chemistry 205-206. Given 1915-1916 and biennially thereafter. Mr. Evans.

This course is similiar to Course 215. Topic for 1913-1914. Special Topics in the Chemistry of Nitrogen Compounds. Since the topic changes from year to year, the course may be elected in different years by the same student.

221. The Phase Rule. Two credit hours. First semester. Given in 1913-14 and biennially thereafter. Prerequisite, Chemistry 157-158. Mr. Henderson.

224. Electro-Chemistry. Two credit hours. Second semester. Given in 1913-14 and biennially thereafter. Prerequisite, Chemistry 157-158. Mr. Henderson.

A discussion of the general principles underlying the subject of electro-chemistry.

227. Analytical Chemistry. Two credit hours. First semester. Two lectures weekly. Prerequisite, Chemistry 119-120 and 157-158. Mr. Foulk.

A course of lectures on some topic of general interest to the students in analytical chemistry. Subject for 1914-15, "Scientific Foundations of Analytical Chemistry." This course may be elected in different years by the same student.

231-232. Chemical Seminar. One credit hour. The year.

All those engaged in giving instruction in the department, together with the fellows and graduate students, meet for an extended discussion of chemical problems of general interest.

235-236. Research Work. Five to ten credit hours. The year. Library, conference, and laboratory work. Research work in organic chemistry is conducted under the supervision of Mr. McPherson, Mr. Evans, and Mr. Boord; in physical and general chemistry under Mr. Henderson; in analytical chemistry under Mr. Foulk and Mr. Long; in industrial and electro-chemistry under Mr. Withrow.

ECONOMICS AND SOCIOLOGY

Office, Room 211, University Hall

PROFESSORS HAGERTY, HAMMOND, MCKENZIE, LOCKHART,
AND HUNTINGTON, ASSISTANT PROFESSORS WALRADT,
RUGGLES, AND PARRY, MISS SHEETS, MISS RENZ,
MR. DRURY, MRS. BRUDER, MISS MARKS,
MR. MILLS

I. Economics

131. Economic and Social History of England and the United States. Three credit hours. First semester. Repeated second semester. Open only to first and second year students. Mr. Walradt, Miss Renz.

134. Economic Geography. Three credit hours. First semester. Repeated second semester. Open only to first and second year students. Mr. Huntington, Miss Renz.

The influences of geographic environment, with special reference to North America.

135-136. Principles of Economics. Three credit hours. The year. Not open to first year students. Should precede all courses in Economics, except 131 and 134. Mr. Ruggles, Mr. Parry, and Assistants.

136 is also given first semester. Mr. Walradt.

135 is also given second semester. Mr. Walradt.

139-140. Elements of Accounting. Two credit hours. The year. Prerequisite, registration in 135-136. Mr. Huntington and Assistants.

An introduction to practical accounting, including the analysis and interpretation of business statements.

***147-148. Financial History of the United States.** Two credit hours. The year. Prerequisite, Economics 135-136. Mr. Walradt.

A study of the fiscal and monetary history of the country from colonial times to the present, with special reference to federal taxation, loans and financial administration, currency legislation, and the development of banking institutions.

149-150. Business Law. Two credit hours. The year. Mr. Ruggles. Prerequisite, Economics 135-136.

A study of the leading principles of interest to the business man to be found in the law of contracts, agency partnerships, corporations, personal and real property, suretyship and guaranty, insurance, the estates of decedents, etc.

145-146. Senior Seminar in Economics. Two credit hours. The year. Mr. Ruggles.

A course of individual investigation and class discussion of practical economic problems. Recommended to students who have had at least two years' work in economics. Open to students who have obtained permission of the instructor.

For Advanced Undergraduates and Graduates

141. Public Finance. Two credit hours. First semester. Prerequisite, Economics 135-136. Mr. Walradt.

Public expenditures; public revenues, with special reference to taxation; public credit; the budget; financial administration.

*Not given in 1914-1915.

144. Problems of Taxation. Two credit hours. Second semester. Prerequisite, Economics 169. Mr. Walradt.

A course dealing with questions of reform in taxation. The Ohio system of taxation will be given special consideration.

153. Money and Currency. Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Walradt.

The relation of money to prices; the cost of living; monetary systems; the gold standard, bimetalism, the gold exchange standard; government and bank paper money; banking history and legislation; currency reform in the United States, with special reference to the prevention of financial panics, and the provision of adequate credit facilities for the farmers.

154. Banking and the Money Market. Three credit hours. Second semester. Prerequisite, Economics 153. Mr. Lockhart.

The organization and functions of banks and other financial institutions; the mechanism of the money and investment markets; the rate of discount; types of investment securities.

156. Municipal Economics. Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Ruggles. The growth of cities and its effects on their economic and social activities; private versus public ownership and operation of public utilities. City finances.

***157. Life Insurance.** Two credit hours. First semester. Prerequisite, Economics 135-136. Mr. Ruggles.

Principles of life insurance and its economic and social significance; kinds of companies, policies, methods of organization, operation and regulation. Health, accident, industrial, and old-age insurance.

***158. Property Insurance.** Two credit hours. Second semester. Prerequisite, Economics 135-136. Mr. Ruggles.

Fire, marine, liability, and miscellaneous insurance. Historical development and practise of various forms of property insurance. A careful study of each class of companies, their risks, policies, methods of operation. and regulation by state.

159. The Geography and History of Commerce. Three credit hours. Second semester. Mr. Huntington. Prerequisite, Economics 135-126.

A study of the basis and development of commerce in the chief commercial nations. Present and prospective leadership among commercial nations and the factors contributing to it. Regulation of commerce by the state and local governments.

*Not given in 1914-1915.

160. Commercial Policies. Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Parry.

Theories of international trade, mercantilism, free-trade, and protection; a study of the tariff of the United States with a comparative study of those of the leading commercial nations. Balance of trade, domestic and foreign exchange.

161. Mercantile Institutions in Domestic Trade. Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Hagerty.

The evolution and organization of mercantile institutions with a study of the methods of selling and distributing goods, including selling agencies, traveling salesmen, produce exchanges, commercial credit, mercantile agencies, etc.

162. Foreign Markets and the Consular System. Three credit hours. Second semester. Prerequisite, Economics 135-136. Mr. Parry.

The significance of exports and imports. The work of the state in furthering commerce. The contest for markets and the methods of securing them. An analysis of the commerce of the United States and the leading commercial nations.

163. Corporation Economics. Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Huntington.

The development of corporations. Corporate organization, management, and finance. Forms and methods of industrial consolidations. Monopolistic tendencies in industry. Public regulation of industrial monopolies.

***164. Industrial Organization.** Three credit hours. Second semester. Prerequisite, Economics 135-136. Mr. Hammond.

The development and internal organization of modern manufacturing enterprises. The forces determining their location. Factory administration. Welfare work. "Scientific Management." Lectures, reports, and visits of inspection to local plants.

165. Labor Legislation. Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Hammond.

A study of the labor laws of the United States and the principal foreign countries with reference to their social and economic causes and effects.

166. Organization and Remuneration of Labor. Three credit hours. Second semester. Prerequisite, Economics 135-136. Mr. Hammond.

History of the labor movement. Trade union policies and methods. Employers' organizations. Collective bargaining. Industrial arbi-

*Not given in 1914-1915.

tration. Attempts to modify the wage system. Time, piece, and progressive wages. Profit sharing, labor co-partnership, and co-operation.

167. Railway Economics. Three credit hours. Second semester. Prerequisite, Economics 135-136. Mr. Ruggles.

The development of the means of transportation. Railway growth and consolidation. Railway rate theories and practise. Railway commissions and public control. Government ownership of railroads.

***168. Railway Organization and Administration.** Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Hammond.

The organization of a modern railway system and the functions of the various departments. Rate making and the work of the traffic department. The work of the industrial commissioner. Railway finance and statistics. The relation of the railroads to the accounting division of the Interstate Commerce Commission.

169-170. Pro-Seminar In Economic Theory. Two credit hours. The year. Prerequisite, Economics 135-136 and permission of the instructor. Mr. Parry.

This course begins by showing how differences of opinion on points of fundamental theory are involved in the important business and social problems of the day and then proceeds to make a critical and constructive examination of some unsettled questions of pure theory connected with markets, valuations, competition, cost, price, capital and income, productive efficiency, and distributive justice. Discussions and short papers based on selected assignments in the writings of significant economists.

171. Principles of Accounting. Three credit hours. First semester. Prerequisite, Economics 139-140. Mr. Huntington.

The principles of modern accounting, including a study of some of its problems, especially those connected with the balance sheet and the income statement, as the valuation of assets, and the treatment of good will, depreciation, capital stock, profits, surplus, reserves, etc.

172. Cost Accounting. Three credit hours. Second semester. Prerequisite, Economics 171 or 173. Mr. Huntington.

The purpose of cost accounting, the relation of the various elements of cost, and the methods of recording them in various types of industries.

*Not given in 1914-1915.

***173. Accounting Practise.** Three credit hours. First semester. Prerequisite, Economics 139-140. Mr. Huntington.

The application of accounting principles. The working out of practical problems in accounting and the analyzing of reports of industrial, financial, and railway corporations.

***174. Auditing.** Three credit hours. Second semester. Prerequisite, Economics 171 or 173. Mr. Huntington.

The duties and responsibilities of an auditor or certified public accountant, the various kinds of audits and their value, the nature and value of the auditor's report. The working out of auditing problems, and the preparation of audit reports.

***175. Principles of Advertising.** Three credit hours. Second semester. Prerequisite, Economics 135-136. Mr. Ruggles.

A study of advertising, its laws, its economic importance, advertising costs, methods of advertising, and follow-up systems; the work of the general advertiser, the advertising manager, and the general advertising agency.

177. Economic Statistics. Two credit hours. First semester. Prerequisite, Economics 135-136. A study of methods of constructing, arranging and interpreting statistical data.

II. Sociology

For Undergraduates

101-102. Principles of Sociology. Three credit hours. The year. Mr. Hagerty, Mr. McKenzie, Miss Renz, Mr. Bruder, Mr. Drury
Not open to first-year students and must precede all courses in Sociology except Sociology 113 and 114.

A study of the fundamental principles of Sociology. Text-book, lectures, collateral reading, and individual investigations.

For Advanced Undergraduates and Graduates

***103. The Indian.** Three credit hours. First semester. Prerequisite, Sociology 101-102. Mr. McKenzie.

A study of primitive man. Readings from reports of the United States Bureau of Ethnology and other sources. A study of the modern Indian problem.

104. The Immigrant. Three credit hours. Second semester. Prerequisite, Sociology 101-102. Mr. Bruder.

*Not given in 1914-1915.

The causes and sources of migration, provisions for transportation, immigration laws, and the assimilation of nationalities.

105. The Negro. Three credit hours. First semester. Prerequisite, Sociology 101-102. Mr. Bruder.

A study of tropical man and the results of his transference to a temperate climate. Negro health, crime, education, and progress in the United States.

***106. Tropical Races.** Three credit hours. Second semester. Prerequisite, Sociology 101-102. Mr. McKenzie.

The sociological bases of progress and development of colonial and other dependent peoples are sought in the geography, resources, ethnology, and administration of tropical peoples with a view to the training of students for efficient service in education, government, business, and missionary endeavor. Special attention will be paid to the Philippines and to the countries of Central and South America.

***107. The Family.** Three credit hours. First semester. Prerequisite, Sociology 101-102. Miss Sheets.

A study of the matrimonial institutions of primitive society and the evolution of the family to modern times.

108. Primitive Man in Ohio. One credit hour. Second semester. Prerequisite, Sociology 101-102. Mr. Mills.

A study of the geological evidence of man's antiquity in Ohio. A detailed study of mounds, earthworks, and remains; environments and stages of culture; late discoveries in the mounds and village sites in Ohio. Illustrated by specimens from the Archaeological Museum.

109. Modern Charity. Three credit hours. First semester. Prerequisite, Sociology 101-102. Mr. Hagerty.

The treatment of dependent and defective classes. A history of poor relief in Great Britain and the United States. Outdoor and indoor relief, both public and private. Organized charity, the treatment of the vagrant, the care of dependent children, the insane, the feeble-minded, the epileptic, and the education of the blind and the deaf.

110. Criminology. Three credit hours. Second semester. Prerequisite, Sociology 101-102. Mr. Hagerty.

A study of crime and the social and physiological causes of crime. A historical study of prison systems and methods. The indeterminate sentence, the probation, and the parole laws. The juvenile court and its agencies to prevent crime.

*Not given in 1914-1915.

***111. Poverty.** Three credit hours. First semester. Prerequisite, Sociology 101-102. Mr. Hagerty.

A study of the personal and social causes of poverty and dependency. Exploitation, maladjustment, housing conditions, tenement legislation, etc. The maintenance of a reputable standard of living.

***112. Preventive Philanthropy.** Three credit hours. Second semester. Prerequisite, Sociology 109 or 111. Mr. Hagerty.

A study of preventive institutions and methods for the promotion of thrift, and for sanitation and public health; parks, playgrounds; substitutes for the saloon; social settlements; child labor legislation; industrial education; building codes; etc.

***113. Historical Socialism and Social Reform.** Three credit hours. First semester. Prerequisite, Sociology 101-102, or Economics 135-136. Mr. McKenzie.

History and theory of communism, socialism, and reform to the middle of the nineteenth century.

***114. Recent Socialism and Social Reform.** Three credit hours. Second semester. Prerequisite, Sociology 101-102, or Economics 135-136. Mr. McKenzie.

Marx and his contemporaries. Present movements in the United States and abroad. The social function of the church.

115-116. Field Work in Sociology. Two credit hours. One or two semesters. Open only to graduates and seniors who have had two years' work in Sociology. Mr. Hagerty.

A study of the work of charity organization, the juvenile court, or the social settlement, through practical experience in these organizations. This course involves the preparation of papers.

117-118. Seminar in Sociology. Two credit hours. The year. Open to graduates and advanced undergraduates. Mr. Hagerty, Mr. McKenzie.

120. The Household. Three credit hours. Second semester. Prerequisite, Sociology 101-102. Miss Renz.

The family as an economic institution. The evolution of household industries and its effect upon the home. Organization of the household with reference to the functions of man and woman.

122. Social Statistics. Two credit hours. Second semester. Prerequisite Sociology 101-102 or Economics 135-136. Population and vital statistics, health statistics, and statistics involved in standards of living. Should be preceded by the course in Economic Statistics.

•Not given in 1914-1915.

For Graduates

***201-202. Advanced Sociology.** Two credit hours. The year. Prerequisite, Sociology 101-102. Mr. McKenzie.

A rapid review of social theories from Plato to Spencer, with a more detailed study of the writings of recent sociologists.

***203-204. Distribution of Wealth,** Three credit hours. The year. Mr. Hagerty.

A study of the development of economic theories, concerning the distribution of the social product among the producers from the time of the mercantilists to the present time. The works of the leading writers of each period are read and discussed in class.

***205-206. The State in its Relation to Industry and Labor.** Two credit hours. The year. Mr. Hammond.

A study of the trend of economic and legal thought concerning the part which the state should take in regulating and developing industry and labor. The results of the policy of non-interference and of the later tendency towards regulation in various countries, particularly those of Anglo-Saxon peoples.

207-208. Graduate Seminar in Economics and Sociology. Two credit hours. The year.

Graduate students and the instructors in the department will meet regularly for the presentation of the results of investigation, the review of current economic and sociological literature, and the discussion of current problems.

ENGLISH

PROFESSORS DENNEY, TAYLOR, MCKNIGHT, GRAVES, DUNCAN,
ASSISTANT PROFESSORS COOPER, BECK,
KETCHAM, MR. CRAIG

For Undergraduates

101. Paragraph Writing: Description and Narration. Two credit hours. First semester. Text: Scott and Denney's Paragraph Writing, and Duncan, Beck, and Graves' Specimens of Prose Composition. All instructors.

The work of the first semester is repeated the second semester. Students who are repeating Course 101 must enroll in the Tu-Th. 8 o'clock section or the W-F 11 o'clock section. This course is given also in the Summer Session.

*Not given in 1914-1915.

104. Paragraph Writing: Exposition and Argumentation. Two credit hours. Second semester. Prerequisite, English 101. All instructors. One section of Course 104 is given in the first semester. This course is given also in the Summer Session.

105. Descriptive and Narrative Writing. Two credit hours. First semester. Prerequisite, English 101, 104. Mr. Beck.

106. Expository Writing. Two credit hours. Second semester. Prerequisite, English 101, 104, 105. Mr. Beck.

107. Advanced Composition. Two credit hours. First semester. Prerequisite, English 101, 104. The number admitted to this course is limited to thirty. Special permission necessary. Mr. Graves.

108. Advanced Composition. Two credit hours. Second semester. Prerequisite, English 101, 104, 107. The number admitted to this course is limited to thirty. Special permission necessary. Mr. Graves.

111-112. Advanced Argumentative Writing. Two credit hours. The year. Prerequisite, English 101, 104. Mr. Duncan.

121. Public Speaking. Two credit hours. First semester. Prerequisite, English 101 and 104. Mr. Ketcham.

The principles of public speaking. The methods of securing the attention, and maintaining the interest of an audience. Practise in the application of principles and methods to simple expository and argumentative addresses.

122. Debating. Two credit hours. Second semester. Prerequisite, English 101 and 104. Mr. Ketcham.

Practise in making and presenting oral arguments. The theory and practise of argumentation and debate. Short class debates on subjects of current interest.

123. Advanced Argumentation and Debate. Two credit hours. First semester. Prerequisite, English 122. Mr. Ketcham.

The analysis of propositions for debate. Practise in the use of evidence. A study of the sources of material. Class debates are made the basis of the work in this course.

124. Extempore Speaking. Two credit hours. Second semester. Prerequisite, English 122. Mr. Ketcham.

Practise in gathering and arranging speech material for extemporaneous addresses. Special exercises for developing clearness, concreteness, connotation, unity, and movement in extemporaneous speaking.

125-126. The Forms of Public Address. Two credit hours. The year. Prerequisites, English 121 and 122. Mr. Ketcham.

A study of the methods of the foremost American and English orators. Class discussions. Practise in the use of different forms of public address. Formal orations; inaugurals; nominating speeches; after dinner speaking; discussions of current events; political, business and social addresses.

127. History of the English Language. Two credit hours. First semester. No prerequisite course. Designed for students without a knowledge of Old and Middle English. The development of the language is traced by means of illustrative specimens. Attention is paid to the history of spelling and pronunciation, the changes in the meaning of words, and the origin of modern idioms. Mr. McKnight.

128. English Words. Two credit hours. Second semester. No prerequisite course. Text-book: Greenough and Kittredge's Words and Their Ways in English Speech. Mr. McKnight.

131. Survey of English Literature. Three credit hours. First semester. No prerequisite course. Mr. Duncan, Mr. Cooper, Mr. Beck.

The outline of the history of English Literature will be given by lecture. The following will be read: Shakespeare's Richard III, Twelfth Night, Coriolanus; Milton's Paradise Lost, Books III, IV; Bunyan's Pilgrim's Progress, Pt. I; Dryden's Palamon and Arcite; Addison's Essays; Pope's Rape of the Lock; Goldsmith's Essays; Scott's Kenilworth; Byron's Mazeppa; Carlyle's Essay on Biography; Dickens's Martin Chuzzlewit; Stevenson's Virginibus Puerisque.

European History 103-104 (Narrative History) is recommended in connection with this course.

Students entering the University with four units of English should elect from Courses 127, 128, 135 to 142.

131. Second semester. Mr. Taylor, Mr. Graves. The work of the first semester is repeated.

134. Survey of American Literature. Three credit hours. First semester. No prerequisite course. Mr. Taylor, Mr. Graves.

The outline of the history will be given by lecture. The reading and criticism will be of Irving, Cooper, Bryant, and Poe; of Hawthorne, Emerson, Whittier, Longfellow, and Lowell; and of Walt Whitman; with a brief survey of recent literature.

134. Second semester. Mr. Duncan, Mr. Cooper, Mr. Beck. The work of the first semester is repeated.

135. The Age of Elizabeth. (Exclusive of the drama.) Two credit hours. First semester. Prerequisite, English 131. Mr. Cooper.

136. The Age of Milton. Two credit hours. Second semester. Prerequisite, English 131. Mr. Cooper.

137. Eighteenth Century Essayists. Two credit hours. First semester. Prerequisite, English 131. Mr. Denney.

Reading in DeFoe, Swift, Addison, Steele, Pope, Goldsmith, Johnson, Chesterfield, Mackenzie, and Burke.

138. Nineteenth Century Essayists. Two credit hours. Second semester. Prerequisite, English 131. Mr. Denney.

Reading in Coleridge, Lamb, Landor, Hazlitt, De Quincey, Carlyle, Ruskin, Arnold, Newman, Pater, and Stevenson.

European History 102 is recommended to students taking this course.

139. Eighteenth Century Poetry. Two credit hours. First semester. Prerequisite, English 131. Mr. Duncan.

The course includes a study of the rise and progress of the new poetic movement during the last years of the eighteenth and the earlier years of the nineteenth century. The poetry of Thomson, Cowper, Gray, Blake, Collins, and Burns, is part of the prescribed reading.

European History 102 is recommended to students taking this course.

140. Wordsworth and His Period. Two credit hours. Second semester. Prerequisite, English 131. Mr. Duncan.

The poetry of Wordsworth, Byron, Shelley, and Keats.

141. Tennyson. Three credit hours. First semester. Prerequisite, English 131. Mr. Taylor.

The whole of Tennyson will be read and criticized and consideration given to Fitzgerald, Arnold, Swineburne, Rossetti, and Morris.

142. Browning. Three credit hours. Second semester. Prerequisite, English 131. Mr. Taylor.

The whole of Browning will be read and criticized, with consideration of the poetry of George Meredith, and of their influence on recent literature.

For Advanced Undergraduates and Graduates

151. Old English. Three credit hours. First semester. No prerequisite course. Mr. McKnight.

Old English prose and poetry as found in Bright's Anglo-Saxon Reader.

152. Old and Middle English. Three credit hours. Second semester. No prerequisite course. Mr. McKnight.

Beowulf, followed by selections illustrating the language and literature from the Norman Conquest to the time of Chaucer.

153. Chaucer. Two credit hours. First semester. Prerequisite, Course 131. Mr. McKnight.

Chaucer's principal works are read. Brief consideration is given to Chaucer's contemporaries, Gower, Wycliffe, Langland, and the author of *Sir Gawayne and the Grene Knight*.

154. English Fiction to Richardson. Two credit hours. Second semester. Prerequisite, Course 131. Mr. McKnight.

A rapid survey by means of modern versions, of early epic poetry and medieval romance, followed by a study of the types of novel in the sixteenth and seventeenth centuries.

155. The Novel. Richardson to Scott. Three credit hours. First semester. Prerequisite, fourteen hours in English. Mr. Taylor.

The history of the development of the novel in the period is given by lecture. Reading and criticism of Richardson, Fielding, Sterne, Jane Austen, and Scott.

156. The Novel. Dickens to Meredith. Three credit hours. Second semester. Prerequisite, fourteen hours in English. Mr. Taylor.

The history and development of the novel in this period is given by lecture. Reading and criticism of Dickens, Thackeray, George Eliot, and George Meredith.

157. Versification. Three credit hours. First semester. Mr. Graves.

The theory of verse structure with a history of the principal English rhythms, and practise in verse composition.

This course is limited to thirty members. Special permission necessary. The course should be preceded by English 135 and 136, or 139 and 140, or 141 and 142.

158. The Short Story. Three credit hours. Second semester. Prerequisite, Course 105 and 106, or 107 and 108. Mr. Graves.

Lectures on structure and form in the short story, with class reports on assigned readings, and practise in story writing.

This course is limited to thirty members. Special permission necessary.

165. Early Popular Drama (including the *Miracles*, *Moralities* and *interludes*). Two credit hours. First semester. Prerequisite, English 167, 168. Mr. McKnight.

Manly's *Specimens of Pre-Shakespearean Drama* is made the basis of this course. Outside study in the complete collections is also prescribed.

166. The Drama from 1580 to 1642. Two credit hours. Second semester. Prerequisite, English 167, 168. Mr. McKnight.

One or two plays of each of the principal contemporaries and immediate successors of Shakespeare; lectures on the history of the drama in this period.

167. Shakespeare, Histories and Tragedies. Three credit hours. First semester. Mr. Denney.

Prerequisite fourteen hours in English.

168. Shakespeare, Comedies and Romances. Three credit hours. Second semester. Mr. Denney.

Prerequisite, fourteen hours in English.

169. Modern English Drama, 1660-1800. Two credit hours. First semester. Prerequisite, English 167, 168. Mr. Cooper.

Representative plays of the principal dramatists are read; lectures on the history of the drama in this period.

170. Modern English Drama, Nineteenth Century. Two credit hours. Second semester. Prerequisite, English 167, 168. Mr. Cooper.

The reading of representative plays is accompanied by lectures on the history of the drama in the nineteenth century. Some attention is paid to American plays.

Exclusively for Graduates

201. History of the Short Narrative in English. Two credit hours. First semester. Mr. Graves.

An investigation of types of the short story in English from the Middle Ages to the present.

202. The Lyric. Two credit hours. Second semester. Mr. Graves.

A study of the characteristics of lyric poetry with a history of the lyric in English literature.

***203. Piers Plowman.** Two credit hours. First semester. Mr. McKnight.

A study of the form and content of the three versions of the Vision Concerning Piers Plowman, and the pictures of contemporary life afforded. Attention is paid to the recent discussion concerning authorship.

***204. The Author of Sir Gawayne and the Grene Knight.** Two credit hours. Second semester. Mr. McKnight.

*Not given in 1914-1915.

An attempt to become acquainted with the personality of this anonymous writer and to arrive at a conclusion concerning his much debated purpose in his poem, *The Pearl*.

205. History of Critical Theory. Two credit hours. First semester. Mr. Denney.

Saintsbury's *Loci Critici* is used as the basis of individual investigations.

206. Problems in The Drama. Two credit hours. Second semester. Mr. Denney.

Lectures on the history of dramatic theory. Each student is assigned a specific problem for individual research.

207. Meredith, Hardy, James. Two credit hours. First semester. Mr. Taylor.

208. Poetry and the Drama Since 1880. Two credit hours. Second semester. Mr. Taylor.

209. English and Scottish Popular Ballads. Two credit hours. First semester. Mr. McKnight.

210. English Usage. Two credit hours. Second semester. Mr. McKnight.

211-212. Studies in Eighteenth Century Literature. Two credit hours. The year. Mr. Duncan.

219-220. Discussion of Dissertations. Two credit hours. The year. Mr. Denney, Mr. Taylor, Mr. McKnight, Mr. Graves, Mr. Duncan.

ENTOMOLOGY

See Zoology and Entomology

EUROPEAN HISTORY

Office, Room 204, University Hall

PROFESSOR SIEBERT, PROFESSOR MCNEAL, ASSISTANT PROFESSOR PERKINS, MR. HARRIS

101. Medieval History. Three credit hours. First semester. Mr. Siebert, Mr. McNeal, Mr. Perkins, Mr. Harris.

102. Modern History from 1500 A. D. Three credit hours. Second semester. Mr. Siebert, Mr. McNeal, Mr. Perkins, Mr. Harris.

113-114. History of England. Three credit hours. The year. Open to second, third, and fourth year students without prerequisite. Mr. Perkins, Mr. Harris.

An outline course intended for all students wishing to obtain a general survey of the subject, also for those specializing in English literature or American history, and for those preparing to teach history in secondary schools.

105. History of Greece. Three credit hours. First semester. Open to second, third, and fourth year students without prerequisite. Mr. McNeal.

106. History of Rome. Three credit hours. Second semester. Open to second, third, and fourth year students without prerequisite. Mr. McNeal.

107-108. Medieval Civilization. Two credit hours. The year. Prerequisite, Courses 101 and 102. Advanced students from other departments admitted without the prerequisite on consent of the instructor. Mr. McNeal.

(1) Political institutions of the Middle Ages: the feudal system, the organization of the church, the national monarchies; (2) intellectual development; scholastic philosophy, sciences, the universities; (3) culture of the Middle Ages: legends and traditions, native languages and literatures, art, customs of chivalry.

109. The Age of the Renaissance, 1250 to 1500 A. D. Two credit hours. First semester. Prerequisite, Courses 101 and 102. Mr. Siebert.

This course traces the rise of our modern civilization, treating of the revival of letters and art, the spread of education, the early developments of modern science, the geographical discoveries, and the political, social, and ecclesiastical changes which occurred during the same period.

101. The Period of the Reformation. Two credit hours. Second semester. Prerequisite, Courses 101 and 102. Mr. Siebert.

Reformational movements from the death of Dante (1321) to the end of the Council of Trent (1563).

111. The French Revolutionary and Napoleonic Periods, 1789-1815. Three credit hours. First semester. Prerequisite, Courses 101 and 102. Mr. Perkins.

112. Europe in the Nineteenth Century. Three credit hours. Second semester. Prerequisite, Courses 101 and 102. Mr. Perkins.

Especial emphasis on the past fifty years and the interpretation of recent events in Europe.

113-114. Constitutional History of England. Three credit hours. The year. Prerequisite, Courses 101 and 102. Mr. Siebert.

Intended for students especially interested in the institutional side of English and American History and in Political Science, and for those taking the Arts-Law course, or expecting to enter the law school.

***115. Europe and Africa, India and Australia.** Two credit hours. First semester. Prerequisite, Courses 101 and 102. Mr. Siebert.

***116. Europe and Turkey.** The Eastern Question. Two credit hours. Second semester. Prerequisite, Courses 101 and 102. Mr. Siebert.

117. Northeastern Europe. Two credit hours. First semester. Prerequisite, Courses 101 and 102. Mr. Siebert.

118. Europe and Asia. The Far Eastern Question. Two credit hours. Second semester. Prerequisite, Courses 101 and 102. Mr. Siebert.

***119-120. History of Germany.** Two credit hours. The year. Open to second, third, and fourth year students without prerequisite. Mr. McNeal.

A general course in German history, with special attention to the interests of the students of the German language or literature.

121-122. History of France. Two credit hours. The year. Open to second, third, or fourth year students without prerequisite. Mr. McNeal.

A general course in French History since the formation of the French Monarchy in 987, but with special attention to the interests of the students of the French language or literature. A reading knowledge of French is not required, but is desirable.

For Graduates

203-204. Seminar in Modern European History. Two credit hours. The year. Open only by permission of instructor. Mr. Siebert.

201-202. Seminar in Medieval History. Reading of the sources of some period in the Middle Ages. Two credit hours. The year. Open only by permission of instructor. Mr. McNeal.

FRENCH

See Romance Languages

*Not given in 1914-1915

GEOLOGY

Office, Room 1, Orton Hall

PROFESSOR PROSSER, PROFESSOR BOWNOCKER, ASSISTANT PROFESSOR
HILLS, MR. VERWIEBE, MISS MARK, MR. ROBINSON

For Undergraduates

101-102. Physiography. Three credit hours. The year. Open to freshmen and sophomores only.

Three field trips are made Saturdays in each semester, each trip taking the place of a recitation. During January, February, and March, the Monday recitation is replaced by laboratory work. Mr. Bownocker, Mr. Hills, Miss Mark, Mr. Robinson.

Physiographic features on the earth's surface; the ocean, and the atmosphere. Recitations, lectures, and assigned readings, illustrated with models and lantern views.

103. Inorganic Geology. Three credit hours. First semester. Mr. Bownocker.

Introductory course. Petrographical, structural, and dynamical geology. Study of common minerals and rocks and geological maps. The course is illustrated with lantern views, models, and museum materials.

104. Historical Geology. Three credit hours. Second semester. Prerequisite, Geology 101 or 103. Mr. Prosser.

A general course in paleontological and stratigraphical geology, illustrated by lantern views, maps, and specimens. The development of organisms and the classification and distribution of the geological formations, especially those of Ohio, are considered. Every other week after the first of April there will be field trips on Saturday in place of the Friday lecture.

[Courses 101 or 103, and 104 are considered as forming a general course in geology which is required before advanced work in physiography, historical or inorganic geology.]

166. Petrography. Two credit hours. Second semester Prerequisite, Geology 103 and Chemistry. Mr. Bownocker.

A study of hand specimens of igneous, metamorphic, and sedimentary rocks. More than one half of the time will be devoted to laboratory work.

For Advanced Undergraduates and Graduates

205. Field Geology. Three to five credit hours. First semester. Lectures, assigned readings, field trips, and laboratory work.

Field trips generally on Saturdays while weather permits, laboratory work for the remainder of the semester. Prerequisite, Geology 101 or 103, and 104. Mr. Prosser.

Study of the geological formations readily accessible from Columbus, and identification of fossils characteristic of different formations. This course is intended to acquaint the student with the ordinary methods of field investigation, and involves the collection and identification of specimens, the measurement of geological sections, and the preparation of a report describing the region studied. Occasionally longer geological excursions will be arranged.

106. Glacial Geology. Three credit hours. Second semester. Prerequisite, Geology 101 or 103, and 104. Mr. Bownocker.

A study of the glacial geology of North America. The first half of the semester will be given to lectures, assigned readings, and map work. The second half largely to field work and the preparation of reports, the field work being on Saturdays.

107-108. Invertebrate Paleontology. Two to five credit hours. The year. Prerequisite, Geology 101 or 103, and 104. Mr. Prosser, Miss Mark.

Careful training in systematic classification which may be used in the philosophical study of the development of plant and animal life, or as a means of becoming acquainted with the fauna and flora that characterize the various geological formations. At first the student devotes some time to conchology, studying recent shells in which the characters used in classification are well preserved, and after this preliminary work, fossils are studied. Fossils afford the most reliable data for identifying and correlating geological formations, and the critical study of faunas is a field especially adapted to independent research. Laboratory, museum, and field work.

111-112. Physiography of Central Ohio. Field and laboratory course. Three to five credit hours. The year. Prerequisite, Geology 101 or 103, and 104. Geology 111 may be taken the first semester, to be followed by 104. Prerequisite, 101-102. Mr. Hills.

Three field trips per week. During December, January, and February, trips are replaced by work in the laboratory.

113-114. Areal Geology. Two to five credit hours. The year. Field work fall and spring, laboratory work in winter. Laboratory open afternoons, 1 to 4. Prerequisite, Geology 101 or 103, and 104; 105-106, and 107-108 for Paleozoic group, and 101 or 103, and 104, and 105-106 for Cenozoic group. Mr. Prosser, Mr. Hills.

Instruction in the methods of preparing geological maps, and reports for both the Paleozoic and Cenozoic groups. Out-crops are traced in the field and a colored geological map is prepared, together with sections showing the geological structure.

115. Economic Resources of the United States. One credit hour. First semester. Must be taken in conjunction with Geology 167. Prerequisite, Geology 101-102 or 103, 104, and Economics 135-136. Mr. Bownocker.

141-142. Minor Investigations and Current Literature. Two to five credit hours. The year. A study of special topics and current literature in geology. Assigned readings, conferences, and reports. (a) **Historical Geology.** Prerequisite, Geology 101 or 103, and 104 required. Mr. Prosser. (b) **Inorganic Geology.** Prerequisite, Geology 167. Mr. Bownocker. (c) **Physiography.** Prerequisite, Geology 101 or 103, and 104. Mr. Hills.

107. Economic Geology. Three credit hours. First semester. Prerequisite, Geology 103 and 104. Mr. Bownocker.

The nature of ores, their classification and origin. The metallic ores of the United States, their distribution, abundance, modes of occurrence, and origin. The non-metals, coal, oil, gas, clay, lime, cement, building stones, etc. In the discussion of the non-metals, emphasis will be laid on the resources of Ohio.

For Graduates

201-202. Advanced Historical Geology. Three to five credit hours. The year. Laboratory open afternoons, 1 to 4. Prerequisite, Geology 101 or 103, and 104, and 107-108. Mr. Prosser.

Advanced work in paleontology and stratigraphical geology.

203-204. Research Work. Three to five credit hours. The year. Prerequisite, preceding courses in inorganic or historical geology. Field, laboratory, and library study is offered along two lines. Outline of work and time will be arranged with individual students. (a) **Stratigraphy and Paleontology.** The investigations of some field problem in stratigraphy, with laboratory and library study, or of some special subject in paleontology. Mr. Prosser. (b) **Economic Geology.** The investigation of some field problem in petroleum, natural gas, coal, or salt. Mr. Bownocker.

GERMAN

Offices, Rooms 317, 318, University Hall

PROFESSOR EVANS, PROFESSOR EISENLOHR, ASSISTANT PROFESSORS
THOMAS, BARROWS, LEWISOHN, BUSEY, DR. KEIDEL, MR.
KOTZ, MR. WILDERMUTH

Unless specially designated "the year," all courses may be taken by the semester. If a new course is to be elected, however, for the second semester, the consent of the instructor in charge must first be obtained.

For Undergraduates

101-102. Elementary German. Four credit hours. The year. All instructors.

One section of 102 will be given the first semester, also, one section of 101 will be given the second semester.

The essentials of grammar and the reading of easy German prose.

103. Intermediate German. Four credit hours. First semester. Prerequisite, Course 101-102, or two entrance units. Not open to students who enter with four entrance units in German. All instructors.

Reading of narrative prose supplemented by discussion of syntax; prose composition.

One section of 103 will be given the second semester.

104. Easy Classical Reading and Composition. Four credit hours. Second semester. Prerequisite, Course 103, or three entrance units. Not open to students who enter with four entrance units. Six sections.

Reading of (a) a classical drama supplemented by discussion. and lectures on the structure of the drama, its characters, and its historical background; (b) other literature of the classical period, or of the nineteenth century; prose composition.

One section of 104 will be given the first semester.

106. Science Reading. Four credit hours. Second semester. Prerequisite, Course 103, or three entrance units.

Rapid reading of technical literature. This is preceded or accompanied by drill on word formation, word compounds, sentence structures. The object of the course is to enable the student to read German technical literature.

107-108. Advanced German. Four credit hours. The year. Modern and classical prose and verse. Oral and written practise. Open only to freshmen with four entrance units in German. Mr. Busey.

115-116. Classical and Modern Writers. Two credit hours. The year. Selections from the eighteenth and nineteenth century writers; written and oral exercises. Miss Barrows, Mr. Keidel.

117-118. Schiller. Introduction to Life and Works. Two credit hours. First semester: Gedichte, Don Carlos, Braut von Messina. Second semester: Wallenstein Dreissigjähriger Krieg. Miss Thomas.

119-120. Nineteenth Century Drama. Two credit hours. The year. Selected dramas read and interpreted in class. The interpretation will take the form of simple lectures in German to be reproduced orally and in writing by the student. First semester: Selections from Kleist, Grillparzer, Hebbel, Ludwig. Second semester: Selections from Wildenbruch, Sudermann, Hauptmann, Fulda. Mr. Lewisohn, Mr. Keidel.

131-132. Conversation and Prose Composition. Two credit hours. The year. Prerequisite, consent of the instructor. Two sections. Mr. Evans, Mr. Busey.

133-134. Conversation. Two credit hours. The class will meet four times a week. Little outside preparation required. The number of students not to exceed 15. Mr. Keidel.

Courses 115 to 134, not open to freshman, require as prerequisite, Course 104 or its equivalent. Course 115-116, offering a considerable amount of intensive oral and written work, is especially recommended for students desiring to take German as a major subject. Courses 117 to 124 are primarily reading courses. **No student may elect more than two-year courses in the group 107 to 124.** A combination of Course 131-132 or 133-134 with one of the Courses 115 to 124 is advised.

For Advanced Undergraduates and Graduates

Prerequisite: At least one year course in the group 107 to 124 or the equivalent.

The attention of advanced students is called to the History of Germany (Course 119-120) offered by the Department of European History.

***151-152. Goethe. Introduction to Life and Works.** Three credit hours. The year. First semester: Selections from lyrics, earlier dramas, and prose. Second semester: Faust. Mr. Evans.

153-154. Survey of German Literature. Three credit hours. The year. Lectures, interpretation of selected texts, and parallel

*Not given in 1914-1915.

readings. First semester; From the beginnings to Lessing. Second semester: Classical period and nineteenth century. Mr. Evans.

***155-156. Lessing. Introduction to Life and Works.** Two credit hours. The year. First semester: Dramas. Second semester: Critical writings. Mr. Eisenlohr.

***157. Volkslied.** Two credit hours. First semester. Studies in the origin and growth of the German Folksong with special reference to German life and culture. Mr. Eisenlohr.

***158. Volksbucher, Marechen, und Sagen.** Two credit hours. Second semester. Studies in popular and legendary literature. Mr. Eisenlohr.

***159. Heine. Introduction to Life and Works.** Two credit hours. First semester. Miss Barrows.

***160. Hebbel. Introduction to Life and Works.** Two credit hours. Second semester. Miss Barrows.

161-162. Romantic Writers. Two credit hours. The year. Lectures on the Romantic Movement with the reading of representative texts. First semester: Selections from Novalis, Tieck, Arnim. Second semester: Selections from Eichendorff, Uhland, Hoffmann. Miss Thomas.

163-164. Nineteenth Century Lyric. Two credit hours. The year. Mr. Lewisohn.

The form and content of German lyric poetry will be studied through intensive analysis of lyrics selected from Goethe, Heine, and the Romanticists, Lenau, Moericke, Geibel, Meyer, Storm, and Lilien-cron.

171-172. Advanced Prose Composition. Two credit hours. The year. Open only on consent of instructor. Mr. Eisenlohr.

173. The Teaching of German. Two credit hours. First semester. A critical study of the methods of teaching modern foreign languages. Lectures, reports, and practise teaching. Open only to seniors and graduate students. Mr. Evans.

174. Grammar Review. Two credit hours. Second semester. A detailed discussion of theoretical grammar from the standpoint of the high school teacher. Open only to seniors and graduate students. Mr. Evans.

***175. Phonetics.** Two credit hours. First semester. A study of speech sounds with special reference to German and English. Miss Barrows.

*Not given in 1914-1915.

***176. Interpretative Reading.** Two credit hours. Second semester. Practise in reading narrative and dramatic prose and verse with the memorizing of certain selections. Not open to graduate students for credit. Miss Barrows.

177. Middle High German. Two credit hours. First semester. Introductory course. Grammar and selected readings. Mr. Busey.

178. History of the German Language. Two credit hours. Second semester. Lectures and illustrative readings, with special reference to the needs of those intending to teach. Mr. Busey.

For Graduates

***201-202. Advanced Middle High German.** Two credit hours. The year. A critical study of German literature in the 12th and 13th centuries. Mr. Eisenlohr.

***203. Gothic.** Two credit hours. First semester. A philological and critical study of selections from the Bible of Wulfila. Miss Thomas.

***204. Old High German.** Two credit hours. Second semester. Studies in the German language and literature of the period. Miss Thomas.

207-208. The Literature of the Empire (1870-1895). Two credit hours. The year. The rise and decline of the naturalistic school and the rise of neo-romanticism in connection with the parallel movements in philosophy and in French and English literature. Lectures, readings, and special reports. Mr. Lewisohn.

215-216. Seminar in German Literature. Two credit hours. The year. The aim is to train graduate students in the scientific methods of the historical and critical study of literature. The course will deal in alternate years with the historical development of the German drama up to Lessing and with the classical period. 1911-1912: History of the German Drama from the Renaissance to Lessing. 1912-1913: Schiller. 1913-1914: The Medieval Drama in Germany. 1914-1915: Goethe's Faust. Mr. Evans.

*Not given in 1914-1915

GREEK LANGUAGE AND LITERATURE

Office, Room 307, University Hall

PROFESSOR BOLLING

101-102. Elementary Greek. Four credit hours. The year.**105. Xenophon:** The Memorabilia of Socrates; exercises in Greek prose. **Herodotus:** selections; with studies in Greek History. Four credit hours. First semester. Prerequisite, Course 101-102.**106. Herodotus,** continued. **Homer:** Odyssey, selections from Books I-IX. Four credit hours. Second semester. Prerequisite Course 105.**107. Lysias:** Eight orations; with studies in Attic Procedure. **Plato:** Apology of Socrates and Crito. Three credit hours. First semester. Prerequisite, Courses 105, 106.**108. Plato:** Crito and Phaedo. **Homer:** Iliad, selections. Three credit hours. Second semester. Prerequisite, Courses 105, 107.**109. Thucydides:** Book I or Book VII. **Demosthenes:** Olynthiacs. Two credit hours. First semester. Prerequisite, Courses 105, 106.**110. Demosthenes:** Phillippics. **Theocritus:** Selections. Two credit hours. Second semester. Prerequisite, Courses 105, 108.**111. Attic Drama.** Euripides: Alcestis. **Sophocles:** Oedipus Tyrannus; with lectures on Scenic Antiquities. Two credit hours. First semester. Prerequisite, Courses 105, 108.**112. Attic Drama.** Continuation of Course 111; two plays. Two credit hours. Second semester.**113. Epic Poetry:** Selections. **Aristophanes:** The birds. Two credit hours. First semester. Prerequisite, Courses 105, 108.**114. Aristophanes:** The clouds. **Post-Classical Greek:** Lucian. Two credit hours. Second semester. Prerequisite, Courses 105, 108.**115. Ancient Art:** Lectures on Architecture and Sculpture. Two credit hours. First semester. No prerequisite course. Not open to freshmen.**116. Ancient Art.** Continuation of Course 115. Two credit hours. Second semester.***117. Medieval Art.** Lectures on Architecture and Sculpture. Two credit hours. First semester. No prerequisite course. Not open to freshmen.***118. Medieval Art.** Lectures on Sculpture and Painting. Two credit hours. Second semester. Not open to freshmen.

*Not given in 1914-1915

Courses 115, 116 are given biennially, alternating with Courses 117, 118. They will not be given again until 1916-1917.

119. Readings in Greek Philosophy. Two credit hours. First semester. Prerequisite, Courses 105, 108.

120. Studies in New Testament Greek. Two credit hours. Second semester. Prerequisite, Courses 105, 108.

121-122. Historical Grammar. One credit hour. The year. Prerequisite, Courses 105, 106.

123. Life and Literature of the Greeks. Lectures on Private Life, and on Epic and Lyric Poetry. Two credit hours. First semester. No prerequisite course. Not open to freshmen.

124. History of Greek Literature. Continuation of Course 123. Lectures on Dramatic Poets, Historians, Philosophers, and Orators. Two credit hours. Second semester.

Courses 123 and 124 are open to students without a knowledge of Greek.

LATIN

Office, Room 307, University Hall

PROFESSORS DERBY, HODGMAN, ELDEN, MR. MURPHY

147. Beginning Latin, grammar and exercises. Four credit hours. First semester.

This course is offered to students who have not studied Latin, but whose ability and definite purpose enable them to do in one year, in college, the first **two** years of the usual course in preparatory Latin.

148. Beginning Latin, Caesar, four books, and exercises. Four credit hours. Second semester. Prerequisite, Course 147.

149. Cicero, Orations. Four credit hours. First semester. Prerequisite, Courses 147, 148, or their equivalent.

150. Virgil, Aeneid. Four credit hours. Second semester. Prerequisite, Courses 147 to 149, or their equivalent.

101. Cicero. De Senectute and De Amicitia; Horace. Odes. Four credit hours. First semester. Prerequisite, four units of preparatory Latin. Mr. Hodgman, Mr. Elden, Mr. Murphy.

102. Horace: Odes, or **Ovid:** Metamorphoses; **Livy or Sallust,** or Prose Composition. Four credit hours. Second semester. Prerequisite, Course 101. Mr. Hodgman, Mr. Elden, Mr. Murphy.

103. Pliny or Cicero: Selected letters; **Catullus** or **Tacitus.** Three credit hours. First semester. Prerequisites, Courses 101 and 102. Mr. Hodgman Mr. Elden.

104. Latin Comedy: Plautus and Terence, three plays. Three credit hours. Second semester. Prerequisite, Course 103. Mr. Hodgman, Mr. Elden.

105. Roman Satire: Horace, Juvenal, or Persius. Two credit hours. First semester. Prerequisite, Courses 101 to 104. Mr. Elden.

106. The Roman Novel: Petronius; Seneca: Selections. Two credit hours. Second semester. Prerequisite, Courses 101 to 104. Mr. Hodgman.

Courses 105 and 106 are important for juniors and seniors.

107-108. Roman Private Life. One credit hour. The year. Prerequisite, Courses 101, 102. Mr. Derby.

***109-110. Quiz and Review.** The year. One credit hour.

This course will discuss, chiefly by lecture and report, the elements of subjects which are comprised under the general head of Latin Philology and are of value to teachers of Latin.

111-112. Roman and Comparative Literature. One credit hour. The year. Mr. Elden.

Course 111-112 consists of lectures and assigned reading on Roman Literature and its influence on modern writers. Open and useful not only to students of Latin, but also to those without a knowledge of Latin, who desire to become acquainted with the broader outlines of Roman Literature and its influence upon the literatures of France, Germany, and England. This course is given every year.

113-114. Pro-Seminar. Three credit hours. The year. Mr. Elden. Prerequisite, Courses 101 to 104.

115-116. Latin Prose Composition. Three credit hours. The year. Prerequisite, Courses 101-104. Mr. Hodgman.

For Advanced Undergraduates and Graduates

Before entering upon graduate work in this department, the student should have had, in addition to the usual preparatory course of four years, not less than three years of collegiate study of Latin.

The plan of study for the second degree (A. M.) with Latin as the major or minor subject, should not include more than two of the Courses 107 to 116; as a rule, these courses should be taken by undergraduates.

The ability to use French or German works of reference, a good knowledge of ancient history and of English literature will be found especially useful. Greek 115, 116 (Greek Art) and Greek 117, 118 (Medieval Art) are recommended.

Lines of reading and investigation supplementary to the regular graduate courses, and necessary to a symmetrical knowledge of the language, literature, and life of the Roman people, will be required according to the needs of the individual student.

123-124. Historical Latin Grammar. Sounds and inflections. One credit hour. The year. Prerequisite, Courses 101 to 104. Mr. Hodgman.

This course treats of pronunciation, ablaut, vowel and consonant changes—especially vowel weakening—accent, inflection, and other similar topics essential to the understanding of the principles which govern the development of the Latin language.

•Not given in 1914-1915.

125-126. Historical Latin Grammar. Syntax. One credit hour. The year. Prerequisite, Courses 101, 104. Mr. Elden.

Lectures on the problems connected with the origin and developments of certain constructions in Latin syntax; a treatment along historical lines of the syntactic uses of the cases, modes, and tenses.

Courses 123 to 126 are deemed essential for those who make Latin a major or minor subject of study in graduate work, and are recommended for advanced undergraduate study.

119-120. Advanced Latin Composition. One or two credit hours. The year. Prerequisite, Course 115-116. Mr. Hodgman.

Translation of English narrative and study of Latin idioms.

121. Roman Prose Authors: Cicero, Seneca, Quintilian, Suetonius, or Tacitus. Two credit hours. First semester.

122. Roman Poets: Plautus, Terence, Lucretius, Vergil, Ovid, Lucan, Statius, Martial, or Silius Italicus. Two credit hours. Second semester.

Courses 121-122 are designed to give an opportunity to read a considerable portion of the author chosen, and are open to advanced students only. At the option of the instructor, the study of one author may be continued during the year, or other authors used in either semester, or the class may earn more credit by meeting oftener, up to a total of five hours. Mr. Derby, Mr. Hodgman, Mr. Elden.

For Graduates

201-202. Roman Religion. One or two credit hours. The year. Mr. Hodgman.

Lectures and Fasti of Ovid.

***203-204. Latin Literature.** One credit hour. The year. Mr. Elden.

See Course 111-112.

***207-208. Seminar.** Two credit hours. The year.

***211-212. Latin Philology.** One credit hour. The year.

213-214. Elements of Epigraphy and Paleography. Two or three credit hours. The year. Mr. Derby.

***215-216. Roman Antiquities and Archaeology.** One to three credit hours. The year. Mr. Derby.

Special topics related to the subjects named above may be pursued under supervision of the instructor, and graduate students, with consent of the department, may earn an additional credit hour in any course primarily for graduates. Such lines of reading and individual investigations will usually be supplementary to the regular graduate courses.

*Not given in 1914-1915.

JOURNALISM

PROFESSOR MYERS

101. News Collecting and News Writing. Two credit hours. First semester. Consultations at hours to be arranged. Prerequisites, English 101-104, and 105 and 106, or 107 and 108. Mr. Myers.

Attention given to vocabulary and style, with drill in the gathering of news through exercises and assignments. The work of the reporter will be considered in connection with a discussion of the organization of the newspaper. Students will be sent to cover actual stories throughout the city.

104. Newspaper Correspondence. Two credit hours. Second semester. Consultations at hours to be arranged. Mr. Myers.

A continuance of Course 103, with the addition of newspaper correspondence and feature writing.

103. Newspaper Practise. Three credit hours. First semester. Prerequisites, English 113 and 114. Mr. Myers.

An advanced course intended for students who are doing work on the University or city papers. These students will be given various assignments. Practise in the writing of headlines, editing of newspaper copy, make-up, and reading of proof will be included in the course. Weekly consultations with the instructor.

106. Newspaper Practise. Three credit hours. Second semester. Mr. Myers.

Prerequisites, English 113 and 114.

107. Editorial Work. Two credit hours. First semester. Prerequisites, English 113, 114, 115, 116. Mr. Myers

A study of the editorial and its relation to public thought. A brief historical survey of the methods of expressing editorial opinion, with a discussion of the tendencies of the times. Various types of editorials are studied in their effect upon the reader, with some practise in writing them. Each student is to prepare a paper on "The Content, Make-Up, and Effectiveness of the Editorial Page."

102. Newspaper Problems. Two credit hours. Second semester. Prerequisite, English 117. Mr. Myers.

The evolution of the newspaper will be treated in some detail, and attention will be given to a comparative study of the newspapers of today and to the discussion of newspaper problems, including the work of the country editor. Each student analyzes and discusses a newspaper assigned him.

MATHEMATICS

Office, Room 314, University Hall

PROFESSORS BOHANNAN, MCCOARD, SWARTZEL, KUHN, RASOR,
ASSOCIATE PROFESSOR ARNOLD, ASSISTANT PROFESSORS
PRESTON, BAREIS, MORRIS, AND WEST, MISS RICKARD

Students intending to make Mathematics a specialty are advised to secure a reading knowledge of French and German and Italian by the beginning of the junior year, and to take some courses in Philosophy, particularly logic, in the junior and senior years.

***105. College Algebra and Trigonometry.** Four credit hours. First semester. Mr. Bohannon, Mr. West.

***106. Plane Trigonometry and Analytical Geometry.** Four credit hours. Second semester. Mr. Bohannon, Mr. West.

121. College Algebra and Trigonometry. Three credit hours. Two recitations and one two-hour problem period. First semester. Mr. Swartzel, Mr. Kuhn, Mr. Arnold, Mr. West.

122. Plane Trigonometry and Analytical Geometry. Three credit hours. Two recitations and one two-hour problem period. Second semester. Mr. McCoard, Mr. Swartzel, Mr. Kuhn, Mr. Arnold, Mr. West.

127-128. Calculus. Three credit hours. The year. Prerequisite, Mathematics 105, 106, or 121, 122, or 131, 132. Mr. Kuhn.

***129-130. Mathematics of Finance and Insurance.** Three credit hours. Two recitations and one laboratory period. The year. Prerequisite, Mathematics 106 or 122. Mr. West.

An introductory course in the mathematical principles of interest and life insurance, together with such practical problems in investments, loans, etc., as may be of value to the general student.

The following subjects are considered: compound interest and discount, rate of interest, interest tables, sinking funds, instalment loans, depreciation, valuation, and amortization of securities, mortality tables, annuities, calculation of premiums, reserves and valuation, dividends, classes of policies and policy conditions, options of settlement, etc.

***134. Statistical Methods.** Two credit hours. Second semester. Prerequisite, Mathematics 121, 122 or equivalent. Mr. West.

A laboratory course in the compilation and reduction of statistical data with special attention to the methods of Pearson, curve plotting, and correlation problems in biology and the social sciences.

*Not given in 1914-1915.

131. College Algebra and Trigonometry. Five credit hours. First semester. Repeated the second semester. All instructors.

132. Plane Trigonometry and Analytical Geometry. Five credit hours. Second semester. Repeated the following semester. All instructors.

141. Calculus. Five credit hours. First semester. Repeated second semester. Prerequisite, Mathematics 106 or 122 or 132. Mr. Bohannon. Mr. McCoard, Mr. Swartzel, Mr. Kuhn, Mr. Arnold, Mr. Rasor, Mr. Morris, Mr. West.

142. Calculus. Five credit hours. Prerequisite, Mathematics 141. Second semester. Repeated following semester. Mr. Bohannon, Mr. McCoard, Mr. Swartzel, Mr. Kuhn, Mr. Arnold, Mr. Rasor, Mr. Morris, Mr. West.

For Advanced Undergraduates and Graduates

Prerequisite, Differential and Integral Calculus.

163-164. Plane and Solid Analytical Geometry. Three credit hours. The year. Mr. Morris.

***165-166. Advanced Calculus.** Three credit hours. The year.

167-168. Differential Equations. Three credit hours. The year. Mr. Rasor.

***171-172. Projective Geometry.** Three credit hours. The year.

173-174. Modern Higher Algebra. Three credit hours. The year. Mr. Kuhn.

***181. Probability.** Three credit hours. First semester. The applications of the Theory of Probability to physical measurements, statistics, and certain problems in insurance. Prerequisite, the Calculus. Mr. West.

***183-184. Actuarial Theory.** Two credit hours. The year. An advanced course in life contingencies and the actuarial principles of fire and accident insurance, workmen's compensation and pension systems. Must be preceded by a course in the Calculus. Mr. West.

For Graduates

Prerequisite, the permission of the instructor in charge.

201-202 (d). Theory of Functions of a Complex Variable. Three credit hours. The year. Mr. Bohannon.

201 (g). Fourier's Series and Spherical Harmonics. Three credit hours. First semester. Mr. Swartzel.

*Not given in 1914-1915.

202 (y). Vector Analysis and its Applications. Three credit hours. Second semester. Mr. Swartzel.

If there is sufficient demand, other courses for advanced undergraduates and graduates will be offered, from the following subjects: Groups, Invariants, Projective Geometry, Function Theory, Number Theory, Infinite Series and Products, History, Statistics.

MECHANICS

Office, Room 233, Lord Hall

PROFESSOR J. E. BOYD, PROFESSOR CODDINGTON, MR. BRUBAKER.

101. Statics, Strength of Materials. Five credit hours. First semester. Prerequisite, Mathematics 141, 142.

102. Strength of Materials, Kinetics, and Hydraulics. Five credit hours. Second semester. Prerequisite, Mechanics 101.

104. Strength of Materials. Two credit hours. Second semester. Prerequisite, Mechanics, 101. Mr. Boyd.

105-106. Advanced Theoretical Mechanics. Three credit hours. The year. For graduates and advanced undergraduates. Prerequisite, Mechanics 102 and Differential Equations.

MILITARY SCIENCE AND TACTICS

Office, The Armory

CAPTAIN GEORGE L. CONVERSE, U. S. A., RETIRED

In accordance with the Morrill Act, passed in 1862, under which the University was established, military instruction must be included in the curriculum. The Board of Trustees, therefore, require all male students, unless excused by the Military and Gymnasium Board, to drill during two years. This work is under two officers of the regular army, detailed for the purpose. The Military Department is open during five days each week throughout the year.

Equipment

The equipment of the Military Department comprises 1300 standard U. S. magazine rifles, with belts, bayonets, and accouterments, fifty-one regulation infantry officers' sabres and belts, twenty-five cadet swords and belts, a stand of regimental colors, with markers, guidons, etc. The target practise equipment comprises six Springfield gallery rifles and seven Winder-model Winchester gallery rifles, five targets for 100, 200, and 300 yards, and five Winder-model targets for long range. The band comprises sixty pieces, partly supplied by the University and partly owned by the members.

The office is equipped for recording the attendance and performance of each cadet in drill, target practise, and classroom work.

Organization

The cadet regiment is organized into four battalions of four companies each, a band, and trumpet corps. Each battalion has its own staff officers. The total number of men under arms averages about 1300 at present. Service in the band is credited as military service. The appointment of cadet officers during the second year of service is for excellence in their work. These officers may continue to serve during the third and fourth years if they wish, and if they do, are given compensation at the end of each year's satisfactory service, amounting to not less than twenty-five dollars (\$25.00) for lieutenants, thirty dollars (\$30.00) for captains, and larger sums for officers of higher ranks. Members of the band who volunteer for service after having completed their two years' required duty, are also paid at the rate of \$20.00 per year, and receive instruction during the four winter months by a competent band-master.

Subjects in Which Instruction is Offered

1. Military Drill. One credit hour. Five months, three hours per week, (divided between fall and spring) military drill; four months, three hours per week, (winter) of class-room instruction in Drill Regulations. Target practise at any open hour during the afternoon of the winter months, at 100, 200, and 300 yards. Lecture, one hour weekly, by the President, upon topics of common interest to the student body.

2. Military Drill. One credit hour. Five months, three hours per week, (divided between fall and spring), in extended order and guard duty. Four months, three hours per week, (winter) of class-room instruction in Articles of War, Guard Manual, and Field Service Regulations. Target practise, at any open hour of the afternoon of the winter months, at 500, 600, and 800 yards.

Caution. Students are cautioned not to buy uniforms until so directed by the Commandant of Cadets. Second-hand uniforms are not allowed unless inspected and passed by the Commandant *before purchase.*

MINERALOGY

Office, Lord Hall

ASSISTANT PROFESSOR MCCAUGHEY

102. Crystallography and Mineralogy. Three credit hours. Mine Engineering, second year, and Chemical Engineering, third year, second semester. Prerequisite, Chemistry 106. Lectures on Crystallography, Physical and Descriptive Mineralogy. Illustrated by drawings, models, and mineral specimens.

104. Determinative Mineralogy. Three credit hours. One lecture, two three-hour laboratory periods weekly. Mine Engineering, third year, second semester. Prerequisite, Mineralogy 102.

Lectures and laboratory work in practical determination of minerals by physical and chemical tests. Each student is furnished with a set of apparatus and works under an instructor's inspection. Brush and Penfield's "Determinative Mineralogy" is used as a manual.

121. Microscopic Mineralogy. Three credit hours. First semester. One lecture and two laboratory periods. Prerequisite, Mineralogy 102, Physics 112 or 114, and Chemistry 106 or 110.

The use of the polarizing microscope in the identification of minerals in fine powder and in thin section. Determination of the optical constants of minerals and crystallized bodies with the polarizing microscope.

126. Advanced Crystallography and Physical Mineralogy. Three credit hours. Second semester. Two lectures and one laboratory period.

The study of the geometrical and physical properties of crystals. Laboratory work on the measurement, calculation, and projection of crystals and the determination of physical and optical constants of crystal bodies. Prerequisites, Physics 112 or 114, and Chemistry 106 or 110.

PHILOSOPHY

Office, Room 321, University Hall

PROFESSORS LEIGHTON AND DAVIES, ASSISTANT PROFESSOR
CHANDLER**For Undergraduates**

101. Introduction to Philosophy. Three credit hours. Second semester. Open to first year students. Mr. Leighton, Mr. Chandler.

The meaning and scope of philosophy, its typical problems, its relations to the special sciences, morality, art, the state, and religion.

102. Introductory Logic. Three credit hours. First semester. Open to first year students. Mr. Leighton, Mr. Chandler.

A practise course in the methods of correct thinking.

***105-106. Elementary Ethics.** Three credit hours. The year. Not open to first year students. Mr. Davies.

This course is an introduction to the study of the moral life as it appears in the individual and in society.

115-116. Esthetics. Two credit hours. The year. Open to first year students. Mr. Chandler.

An elementary study of the beautiful in nature and in art.

151-152. History of Philosophy. Three credit hours. The year. Not open to first year students. Mr. Leighton.

In this course the history of reflective thinking on the problems of human life and the world-order will be traced in outline, from the dawn of Greek speculation to the rise of the modern doctrine of evolution. Constant regard will be had to the relation of philosophy to social, literary, and scientific movements.

***155-156. History of Christian Philosophy.** Three credit hours. The year. Open to first year students. Mr. Davies.

A study of the source material in the New Testament and of the stages through which this material was developed into the scholastic systems of the Middle Ages.

For Advanced Undergraduates and Graduates

111-112. Advanced Ethics. Two credit hours. The year. Prerequisite, one year in philosophy, psychology, or sociology, and one year in a related subject. Mr. Chandler.

The chief stages in the evolution of moral ideas of western civilization from the ancient Hebrews and Greeks to the present time.

***113-114. Advanced Logic.** Three credit hours. The year. Prerequisite, Philosophy 102, and one year in Psychology, Sociology, Mathematics, or Natural Science. Mr. Davies.

A systematic study of the conditions, criteria, nature, and degrees of truth.

***119. Philosophy of Religion.** Three credit hours. First semester. Prerequisite, one year's work in Philosophy, Psychology, or History of Religion. Mr. Leighton.

An account of the actual nature of religion as shown in its chief historical and psychological phenomena, and an interpretation of its significance for culture and the truth of its leading conceptions.

*Not given in 1914-1915

121-122. Metaphysics. Two credit hours. The year. Prerequisite, at least one year's work in Philosophy and in Psychology or a natural science. Mr. Leighton.

This course is a systematic discussion of the fundamental problems of theoretical philosophy; the meaning of truth and its relations to reality, the philosophy of nature, and of the human self, the problems of freedom, evil, immortality, and theism.

***127. British Philosophy from Bacon to Hume.** Two credit hours. First semester. Prerequisite, Philosophy 151-152, and an additional year in Philosophy, Psychology, or a related subject. Mr. Davies.

An historical course, covering the period of British Empiricism.

***128. Continental Philosophy for Descartes to Leibnitz.** Two credit hours. Second semester. Prerequisite, the same as for Philosophy 127. Mr. Davies.

An historical course, covering the period of continental rationalism.

***129-130. The Humanistic Movement.** Three credit hours. The year. Prerequisite, two years in Philosophy, or Psychology, or one year in Philosophy and one year in a related subject. Mr. Davies.

Traces the problem of man in the history of culture, and studies the meaning of this problem for a philosophy of life.

***131-132. Philosophy of Values.** Three credit hours. The year. Prerequisite, one year in Philosophy, Psychology, or Economics and Sociology, and one year in a related subject. Mr. Davies.

A study of the foundations of our economic, social, ethical, esthetical, and religious judgments, and of the nature of the objects of these judgments.

137. The Philosophy of Kant. Two credit hours. First semester. Prerequisite, one year's work including Philosophy 101-102 or 151-152. Mr. Chandler.

A study of the system of Kant in its historical relations and present significance.

138. The Philosophy of Hegel. Two credit hours. Second semester. Prerequisite, the same as for Course 137, which should precede this course. Mr. Chandler.

A study of Hegel's system in its historical relations, with an estimate of its present value.

***142. The Main Currents of Nineteenth Century Thought.** Three credit hours. Second semester. Prerequisite, one year's work in

*Not given in 1914-1915.

Philosophy, Psychology, or Sociology, or one year's work in the history of Nineteenth Century English, French, or German literature, or one year's work in Biology. Mr. Leighton.

A non-technical account and estimate of the chief formative influences in the reflective life of the nineteenth century. Intended for students of literature, science, and social movements.

For Graduates

201-202. Graduate Seminars. Two to five credit hours. The year. Opportunities for research, depending on the previous training and special interests of individual students, will be afforded in (a) **The History of Philosophy**, (b) **Logic and the Theory of the Sciences**, (c) **Metaphysics**, (d) **Ethics**, and (e) **The Philosophy of Religion**. Mr. Leighton, Mr. Chandler.

***205-206. The Philosophy of Mind.** Two credit hours. The year. Prerequisite, one year's work in Philosophy and Psychology. Mr. Davies.

A study of the problems growing out of the nature of mind and its place in history and the material universe.

207-208. Contemporary Philosophical Issues. Two to three credit hours. The year. Prerequisite, two years in Philosophy and Psychology, including either Philosophy 151-152, 127, 128, or 137, 138. Mr. Leighton.

An expository and critical discussion of recent pragmatism, humanism, realism, pluralism, and personal idealism. For 1914-1915—The New Realism and Recent Idealism.

PHYSICAL EDUCATION

Office, Gymnasium

DR. H. SHINDLE WINGERT

Physical Education for men and women is conducted under the direct supervision of the Professor of Physical Education, who is a medical graduate. For the men's work he has two assistants and twenty student aides, who are selected each year from those who show proficiency in their work. For women there is an Associate Professor, who is also a medical graduate, an Instructor, and one paid student assistant.

*Not given in 1914-1915.

Aim of the Department. (a) To develop and maintain the health and human efficiency of the student. (b) To extend Physical Education and Hygiene throughout the community and State. (c) To train teachers and leaders in these subjects.

(**Note.** Owing to the over-crowded condition of this department, extension work is impracticable. Nearly all the efforts of this department are necessarily confined to the large number of students taking the required work.)

Equipment. The Armory and Gymnasium (175 x 120 feet) is used jointly by the Departments of Military Science and Physical Education, also during the winter months by the Department of Athletics. On the ground floor are the officers' rooms, aides' room, locker room, baths, swimming pool, and a large room (50 x 80 feet) which is used as a gymnasium for the men in the mornings, and for target practise by the Military Department in the afternoons.

The second floor contains administrative offices and the main floor of the gymnasium (80 x 150 feet). The gymnasium contains a first-class equipment of modern gymnastic apparatus, including a running track $13\frac{1}{2}$ laps to the mile.

The women's section occupies the ground floor of the east end of the building, and contains offices, dressing and locker rooms, baths, and swimming pool. The main floor of the gymnasium is used by the women in the forenoon. In the afternoon, the main floor is used exclusively by the men for class-work, athletics, basket-ball, and re-creative games.

The gymnasium is open on alternate evenings to men and women, and for athletic games and contests.

Play Ground. The south end of the campus, containing over 30 acres, affords ample space for all the outdoor recreative games and sports. All the work of this department that can be conducted out of doors with benefit to the student during the fall and spring months is given on those grounds.

Medical and Physical Examination. A thorough medical and physical examination is required of all first-year students at the opening of the freshman year; this includes examination of heart, lungs, eyes, nose, ears, throat, and teeth, blood pressure, and urinalysis when indicated. A limited number of essential measurements of the body (and certain strength-tests for men). When weaknesses or abnormal deviations of form, structure, or function are discovered, suitable corrective exercises, recreation, or treatment is prescribed. Students

found suffering from organic diseases are excused from exercises that might prove injurious, and required to secure proper medical advice and treatment.

(A.) FOR MEN

The Gymnasium

PROFESSOR WINGERT, MR. OHLSON, MR. BARTHOLOMEW

1. Physical Education. One credit hour. Two hours a week. The year. Required of all first-year students in this college, During the first semester the course consists of one lecture on Personal Hygiene and one period of active physical exercise each week.

(a.) **Personal Hygiene.** Lectures and quizzes on the cause, prevention, and hygienic treatments of the common preventable diseases and conditions which lower the vitality and interfere with the health and efficiency of the student. Hygiene of the respiratory tract, "colds" and the minor diseases of the nose, throat, and tonsils, and tuberculosis. The digestive tract, food values, indigestion, constipation, etc. Hygiene of the eye, eye-strain, venereal diseases, ventilation, clothing, bathing, and the principles of rational work, rest, recreation, and nutrition, etc.

(b.) Physical exercise in class: *Corrective*, a graded course of free-hand exercises, stretching, relaxing, stimulating exercises, with light hand apparatus for the relief and correction of slight bodily defects, improper carriage, etc. *Educative*, graded progressive exercises on the apparatus and mats, to promote muscular tone, organic vigor, bodily skill, etc. *Recreative*, class dancing, gymnastic and atheletic games and contests, giving mental rest, relaxation, and diversion.

(c.) During the second semester, two hours a week of active exercise in class is required. An effort is made to develop a "habit of exercise," and those games, sports, and exercises which the student is most likely to follow in the after college years are encouraged, —such as all legitimate types, or class and social dancing, swimming, (every man must learn to swim) tennis, club swinging, fencing, volley ball, and the various group games and contests outdoor and indoor.

MEDICAL EMERGENCY SECTION

(In the Gymnasium.)

This department maintains a medical emergency section open to students, male or female, in the department. Emergency medical advice and treatment is furnished free to students while on the campus, during regular hours.

(B.) FOR WOMEN

Office, The Gymnasium

DR. GOETZ, MISS SAUER, MISS COURTNEY

1. Physical Education. One credit hour. Four hours a week. Required of all women students during first year of attendance at the University. Consists of:

(a) Lectures on Personal Hygiene; two hours a week for first eight weeks of first and second semester.

(b) Gymnasium exercises: elementary Swedish gymnastics, calisthenics, drills with wands, Indian clubs, etc. Folk dances, technique of esthetic dancing, and gymnastic games. Two hours a week for first eight weeks, then four hours a week.

(c) (Elective). Recreative games and sports, tennis, basketball, hiking, swimming, when conducted under proper supervision; may be elected for gymnastic exercises. Hours to be arranged.

2. Physical Education. For second year students; required of all women students after completing Course 1. Consists of:

(a) Lectures on principles of Physical Education, one hour a week, first eight weeks of first semester.

(b) Gymnasium exercises: marching, tactics, calisthenics, series of exercises with wands, clubs, etc., requiring more skill in execution than those in Course 1. Folk dancing, esthetic dances, and gymnasium games and elementary exercises on apparatus suitable for women.

(c) Recreative games and sports, same as 1 (c).

PHYSICS

Office, Room 24, Physics Hall

PROFESSORS COLE, EARHART, BLAKE, BARNETT, ASSISTANT
PROFESSORS SHEARD, SMITH, MR. HEIL

103-104. General Physics. Four credit hours. The year. Recitations, lectures, and laboratory. A non-mathematical course for students who have no entrance credits in physics. Mr. Sheard.

105-106. General Physics. Four credit hours. The year. Prerequisite, entrance credit in physics. Mr. Blake.

111-112. General Physics. Three credit hours. Two lectures, one recitation, and one two-hour laboratory period. First semester, Mechanics and Heat; second semester, Electricity and Light. Prerequisites, Preparatory Physics and Mathematics 132. Lectures, Mr. Cole; laboratory, Mr. Sheard; recitation, Mr. Cole, Mr. Earhart, Mr. Sheard, Mr. Smith, Mr. Heil.

115-116. Physics Problems. Two credit hours. The year. Two recitations, covering problems in mechanics and heat, the first semester, and electricity and light the second semester. Prerequisites, Mathematics 132 and a year's work in college physics. Mr. Earhart, Mr. Sheard, Mr. Smith, Mr. Heil.

121-122. Laboratory. Three to five credit hours. The year. Prerequisite, Physics 103-104, or 105-106. Mr. Cole.

For Advanced Undergraduates and Graduates

123-124. Advanced Laboratory. Three to five credit hours. The year. Prerequisite, Physics 121-122. Mr. Cole.

141-142. Molecular Physics and Conduction of Electricity through Gases and Radioactivity. Three credit hours. The year. Prerequisite, Physics 103-104, or 105-106, and Mathematics 141, 142, or 127, 128. First semester, Molecular Physics, Mr. Earhart; second semester, Conduction of Electricity through Gases and Radioactivity. Mr. Earhart or Mr. Sheard.

This course alternates with Course 143-144.

***143-144. Advanced Light and Electricity.** Three credit hours. The year. Prerequisite, Physics 103-104 or 105-106, and Mathematics 141, 142 or 127, 128. First semester, Light, Mr. Sheard; second semester, Electricity and Magnetism, Mr. Earhart.

This course alternates with Course 141-142.

Courses 141-142 and 143-144 together constitute a two-year cycle moderately advanced, covering the whole subject of physics.

145-146. Physical Seminar. One credit hour. The year. Prerequisite, two years of college work in physics or one year in physics and one in mathematics or chemistry. Mr. Earhart.

169-170. Theoretical Physics. An advanced course in Light. Two credit hours. The year. Prerequisite, Physics 105-106, and Mathematics 141, 142, or equivalents. Mr. Sheard.

127-128. The Theory and Practise of Electrical Measurement. Three to five credit hours. The year. Prerequisites, Physics 105-106, or equivalent; a course in Electrical Measurement, and Mathematics 141, 142, or equivalent. Mr. Barnett.

Exclusively for Graduates

201-202. Research Laboratory. Three to five credit hours. The year. Prerequisite, two years' laboratory work in physics. Mr. Cole Mr. Earhart, Mr. Blake, Mr. Barnett, Mr. Sheard, Mr. Smith.

*Not given in 1914-1915.

203-204. Theoretical Mechanics. Three credit hours. The year. Prerequisite, Physics 105-106, and Mathematics 141, 142, or equivalents. Mr. Blake.

***205-206. Thermodynamics and Electrolytic Conduction.** Two credit hours. The year. Prerequisite, Physics 105-106, and Mathematics 141, 142, or equivalents. Mr. Smith.

207-208. Theory of Electricity and Magnetism. Three credit hours. The year. Prerequisites, Physics 105-106, and Mathematics 141, 142, or equivalents. Mr. Smith.

Courses 203-204, 205-206, 207-208, and 169-170 together form an advanced two-year cycle, covering the whole ground of physics.

211-212. Theory of Oscillations With Their Applications to Wireless Telegraphy. Two credit hours. The year. Prerequisite, Physics 105-106, and Mathematics 141, 142, or equivalents. Alternates with Course 213-214. Mr. Blake.

213-214. Conduction of Electricity Through Gases and Radio-activity. Two credit hours. The year. Prerequisite, same as for Course 211-212. Mr. Earhart, Mr. Blake.

215-216. Electromagnetic Theory. Three credit hours. The year. In this course different parts of electrical theory will be treated in detail in different years. Among the subjects which will be taken up are the theory of electromagnetic induction in fixed and moving bodies, the theory of radiation, and the theory of magnetism.

POLITICAL ECONOMY

(See Economics and Sociology)

POLITICAL SCIENCE

Office, Room 200, University Hall

PROFESSOR SPENCER, ASSISTANT PROFESSOR COKER

For Undergraduates

101-102. Constitutional Government. Three credit hours. The year. Course 101 is repeated second semester. Mr. Spencer, Mr. Coker.

This course is not open to freshmen. It is strongly recommended that it be preceded by a year's work in European or American history. It affords a general introduction to the field of political science, and

*Not given in 1914 1915.

should precede all other courses offered in this department. American government is studied in the first, European governments in the second semester.

***113-114. Problems in International Politics.** One credit hour. The year. Given biennially. Mr. Spencer.

125. Introduction to Jurisprudence. Three credit hours. First semester. Prerequisite, Political Science 101-102, except by special permission of the instructor. Mr. Spencer.

A preliminary study of legal concepts. Holland's *Jurisprudence* and Maine's *Ancient Law* will be used as text-books, supplemented by lectures on the history of the Roman law and the common law.

For Advanced Undergraduates and Graduates.

126. International Law. Three credit hours. Second semester. Prerequisite, Political Science 101-102. Mr. Spencer.

A study of the principles of international law in their growth and present status together with an examination of some of the unsettled questions in this field. Lawrence's *Principles of International Law* (4th edition) will be used as the text-book.

127-128. English Politics. One credit hour. The year. Prerequisite, Political Science 101-102. Given biennially, alternating with Political Science 113-114. Mr. Coker.

A study of the political ideas of present English parties, and of the political aspects of recent measures of social reform, state socialism, and constitutional change.

106. Municipal Government and Problems. Three credit hours. First semester. Prerequisite, Political Science 101-102. Mr. Spencer.

A comparative study of the *city*, in ancient and modern times, in America, England, and Europe; its social significance and governmental structure; its relation to the state in the law of municipal corporations; experience with government by Council, Mayor, Commission, Manager. As text-books, Munro's *Government of European Cities* and Munro's *Government of American Cities* will be used.

130. Municipal Functions. Three credit hours. Second semester. Prerequisite, Political Science 101-102. Mr. Coker.

A study of the work of municipal government in the United States and Europe. The course will give a comparative view of the following: police; charities; public works; public utilities; municipal ownership; municipal finance.

*Not given in 1914-1915.

131. Legislation. Two credit hours. First semester. Prerequisite, Political Science 101-102. Mr. Coker.

A study of the work and methods of American legislatures. State legislatures will be chiefly considered, but comparisons will be made with Congress and with foreign parliaments. The following subjects will be discussed: the composition, organization, and procedure of legislative bodies; the preparation of bills—as to form and subject matter; the general character and scope of statute law-making in the United States.

132. Comparative Administration. Two credit hours. Second semester. Prerequisite, Political Science 101-102. Mr. Coker.

A study of the organization and activities of administrative departments and commissions. State administration in the United States will primarily be studied. Special attention will be devoted to administrative regulation of public service corporations, of industrial and social relations, and of finance.

***107. Party Government.** Three credit hours. Second semester. Prerequisite, Political Science 101-102. Given biennially. Mr. Spencer.

Parties will be considered as extra-governmental agencies for political purposes; their reason for being, their organization and methods, the effect of their activity upon governmental processes.

109. The Government of Ohio. Three credit hours. Second semester. Prerequisite, Political Science 101-102. Given biennially. Mr. Spencer.

A survey will be presented of the governmental institutions of Ohio, state and local, political and administrative, in their historical evolution and present status; regard will be paid to their constitutional, statutory, and practical bearing.

129. History of Political Theories. Three credit hours. First semester. Prerequisite, Political Science 101-102. Given biennially. Mr. Coker.

The development of leading ideas in politics will be traced from the time of the Greeks to the present.

***105. Comparative Constitutional Law.** Three credit hours. First semester. Prerequisite, Political Science 101-102. Given biennially. Mr. Coker.

A comparative study of the constitutions of the United States and leading foreign countries: the extent of suffrage, and the powers of the

*Not given in 1914-1915.

voters; the structure and functions of the legislature, executive, and judiciary; the rights of the individual against the government.

117-118. Pro-Seminar in Political Science. Two credit hours. The year. Prerequisite, Political Science 101-102 and two other semester courses in the Social Sciences group. Mr. Spencer.

Papers and reports on research will be presented by the members for mutual criticism and suggestion. The general topic for the year's work will be Representative *versus* Direct Government.

PSYCHOLOGY

Office, Room 404, University Hall

PROFESSORS MAJOR, HAINES, ARPS, DR. PINTNER, MR. WEISS

101-102. General Psychology. Introductory course. Three credit hours. The year. Mr. Major, Mr. Haines, Mr. Arps, Mr. Pintner, Mr. Weiss.

101 is repeated the second semester.

102 is repeated the first semester.

111-112. Experimental Psychology. Three credit hours. The year. Lecture and laboratory. Prerequisite, Psychology 101-102. Mr. Arps, Mr. Weiss.

111 is repeated the second semester.

A systematic training course in the method of introspection, which brings one to a first-hand acquaintance with the facts of the mental life. Topics: The sense fields, geometrical optical illusions, stereoscopic and pseudoscopic illusions, tactual space perception, auditory localization, attention, reaction-time, memory types, tonal fusion, association, and analysis of judgment.

115-116. Mental Development. Two credit hours. The year. Prerequisite, Psychology, 101-102. Mr. Pintner.

This course is designed (1) to describe the characteristic features of the child mind; (2) to study the principles and empirical data of the development of the individual human mind.

119. Animal Psychology. Three credit hours. First semester. Prerequisite, Psychology 101-102. Mr. Weiss.

A systematic following-out of the steps in the evolution of mental processes through the animal series from the protozoa to the apes, with a special lookout for the method of organization. Studies in the development of the senses, association, memory, perception, attention, suggestion, accommodation, imitation, learning-capacity, and practical judgment.

121. Abnormal Psychology. Four credit hours. First semester. Prerequisite, Psychology 101-102. Mr. Haines.

Studies of the main types of insanity, both for the knowledge of the constitution of the abnormal mind, and for the knowledge gained, by contrast, of the normal mind. Clinics, lectures, and recitations.

122. The Defective Child. Three credit hours. Second semester. Prerequisite, Psychology 101-102. Mr. Haines.

A study of the varieties and grades of mental deficiency, including the backward child of the schools and the distinctly feeble-minded. The causes and treatment of the same. Lectures, recitations, and clinics.

125. Social Psychology. Three credit hours. First semester. Prerequisite, Psychology 101-102. Mr. Haines.

The social factor in the development of personality, and the mental process involved in social development, including such topics as suggestion, imitation, invention, sympathy, modesty, the socially unfit, and the genius.

126. The Psychology of Primitive Peoples. Three credit hours. Second semester. Prerequisite, Psychology 101-102.

The psychic factors involved in group activities, such as the play of children, art (especially of savages and barbarians), mob phenomena, family life, and ethnic groups.

129-130. Advanced Psychology. Two credit hours. The year. Prerequisite, Psychology 101-102. Mr. Major.

This course includes a consideration of the main psychological concepts, both in themselves and in their relation to one another.

133-134. Individual Psychology. Two credit hours. The year. Mr. Major. Mr. Pintner.

A study of individual variations in mental capacity and development.

***137-138. General Psychology.** Advanced course. Three credit hours. The year. Mr. Major.

This course is open to students who have completed Psychology 101-102, or the equivalent, and who wish to make a more intensive study than is practical in an introductory course of certain topics selected from the field of general psychology.

For Advanced Undergraduates and Graduates

141-142. Research in Experimental Psychology. Two credit hours or more. The year. Prerequisite, Psychology 101-102, 111-112. Mr. Arps, Mr. Weiss.

*Not given in 1914-1915.

The investigation of problems in any field of Psychology by the aid of the experimental method. The student selects a problem in consultation with the instructor.

143-144. Seminar in Psychology. Two to five credit hours.

In the Contemporary Literature of the Higher Thought Processes. Mr. Arps.

145-146. Seminar in Psychology. Two to five credit hours. The year. Mr. Major.

147-148. The Psychological Clinic. Two credit hours. The year. Mr. Haines.

A seminar course devoted to the methods of diagnosis and treatment of exceptional children.

For Graduates

201-202. Graduate Courses in Psychology. Three to ten credit hours. The year. Mr. Major, Mr. Haines, Mr. Arps.

These courses are to meet the needs of individual graduate students who are pursuing a major or minor study in the department of Psychology.

RHETORIC AND ENGLISH LANGUAGE

(See English)

ROMANCE LANGUAGES AND LITERATURES

Office, Room 305, University Hall

PROFESSORS BOWEN, BRUCE, INGRAHAM, ASSISTANT PROFESSORS HAMILTON, CHAPIN, MR. BOND, MR. DUNHAM, MR. DITCHY, MR. MOORE

Courses 101-102, 103-104 in French must precede all others (except Course 106). Courses 117 to 120, inclusive, in French, must be preceded by Courses 107, 109, and 110, or an equivalent.

I. French

101-102. Elementary French. Four credit hours. The year. Grammar: Fraser and Squirrel's, or equivalent. Reader: Aldrich and Foster's, or Bowen's First Scientific. Historical and narrative prose; one or more prose comedies. Twelve sections. All instructors.

Stress is laid first upon the acquisition of a correct pronunciation, after which the entire energy of the student is directed toward the

attainment of a full and accurate reading knowledge of the language. Grammar and composition made to contribute to this end. Sight reading emphasized.

103-104. Modern French Literature. Four credit hours. The year. Seven sections. Prerequisite, Courses 101-102, or an equivalent. Mr. Bruce, Mr. Hamilton, Mr. Chapin, Mr. Bond, Mr. Dunham, Mr. Ditchy, Mr. Moore.

The work of the year deals with the following subjects: (1) Contes; (2) The novel (Balzac or Hugo); (3) Lyric poetry; (4) Romantic drama (Hugo). Prose composition, with practise in speaking. Systematic attention given to syntax and idiom. Lectures supplement the work. Private reading required.

106. Science Reading. Four credit hours. Second semester. Prerequisite, Course 103. Mr. Chapin.

A course of rapid reading introductory to the vocabulary of scientific literature.

For Advanced Undergraduates and Graduates

107. Advanced Prose Composition. Two credit hours. First semester. Mr. Ingraham. Mr. Peirce.

Cameron's French Composition, followed by other selections. Dictation. Conversation. The course is conducted mainly in French.

108. History of French Literature. Two credit hours. Second semester. Lectures and illustrative readings. Mr. Ingraham.

109. Seventeenth Century Drama. Molière and Corneille. Three credit hours. First semester. Mr. Bowen, Mr. Peirce.

Lectures on the growth of French comedy and tragedy. Critical study of representative plays of Molière, Regnard, and Corneille. Collateral reading. Assigned topics and reports.

110. Seventeenth Century Tragedy and Prose. Three credit hours. Second semester. Mr. Bowen, Mr. Peirce

Representative dramas of Racine; Hachette's *Théâtre choisi de Racine*. Study of Descartes, Pascal, La Bruyère, and others; Warren's *Selections*. Lectures, with collateral reading and reports.

111. Eighteenth Century Drama. Three credit hours. First semester. Prerequisite, Courses 109 and 110. Mr. Ingraham.

Lectures on French comedy after Molière with work centering on Marivaux and Beaumarchais. Study of the drama of Voltaire. Collateral reading and reports.

112. Nineteenth Century Drama. Three credit hours. Second semester. Prerequisite, Courses 109 and 110. Mr. Ingraham.

Tendencies of French drama during the nineteenth century, with especial reference to Scribe, Augier, Dumas fils, and Sardou. Lectures, with collateral reading and reports.

***113. Recent French Prose.** Two credit hours. First semester. Given biennially, alternating with Course 115. Mr. Bruce.

Rapid reading, with lectures. Selections from the works of such writers as Bazin, Daudet, Loti, Zola.

***114. Practise in Speaking and Writing French.** Two credit hours. Second semester. Students wishing to elect this course must have the consent of the instructor in charge. Given biennially, alternating with Course 116. Mr. Bruce.

115. Eighteenth Century Prose. Two credit hours. First semester. Given biennially, alternating with Course 113. Mr. Bruce.

Selections from Voltaire (ed. Cohn and Woodward), Rousseau, and others.

116. Advanced Conversational Practise. Two credit hours. Second semester. Students wishing to elect this course must have the consent of the instructor in charge. Given biennially, alternating with Course 114. Mr. Bruce.

117-118. French Seminar A. Two credit hours. The year Mr. Bowen.

Studies in specific literary fields. The subject for 1914-1915 will probably be: Recent and contemporary French drama.

119-120. French Seminar B. Two credit hours. The year Mr. Bowen.

Studies in Old French (with emphasis of *la Chanson de Roland*) and in the language and writers of the sixteenth century. Special consideration of Montaigne.

II. Italian

***101-102. Elementary Italian.** Four credit hours. The year. Grammar (Grandgent's or Young's) and Reader (Bowen's). Modern prose. Comedies of Goldoni. Students are advised to postpone the election of this course until they have completed French 101-102, or an equivalent. Mr. Bruce.

For Advanced Undergraduates and Graduates

103. The Italian Novel. Two credit hours. First semester. Manzoni (*I Promessi Sposi*, and others). Lectures. Prerequisite, Italian 101-102 Mr. Bruce.

*Not given in 1914-1915.

104. Dante. Two credit hours. Second semester. Selections from the *Inferno* and *Paradiso*. Lectures. Prerequisite, Italian 103. Mr. Bruce.

III. Spanish

101-102. Elementary Spanish. Four credit hours. The year. Grammar: Ingraham—Edgren's, and Ingraham's *Victoria y Otros Cuentos*. Easy prose and plays. Composition and practise in speaking. Six sections. Mr. Ingraham, Mr. Hamilton, Mr. Chapin, Mr. Ditchy, Mr. Moore.

For Advanced Undergraduates and Graduates.

103-104. Modern Spanish Literature. Four credit hours. The year. Prerequisite, Spanish 101-102, or an equivalent. Mr. Ingraham or Mr. Chapin.

The modern novel and drama. Lectures covering a survey of the literature. Composition and practise in speaking continued.

105. Cervantes: Don Quijote. Two credit hours. First semester. Prerequisite, Spanish 103-104. Given biennially, alternating with Course 107. Mr. Ingraham.

106. Lope de Vega and Calderon. Two credit hours. Second semester. Prerequisite, Spanish 105. Given biennially, alternating with Course 108. Mr. Ingraham.

***107. The Novel after Cervantes.** Two credit hours. First semester. Prerequisite, Spanish 103-104. Given biennially, alternating with Course 105. Mr. Ingraham.

***108. Contemporaries of Lope de Vega and Calderon.** Two credit hours. Second semester. Prerequisite, Spanish 107. Given biennially, alternating with Course 106. Mr. Ingraham.

Exclusively for Graduates

201-202. Introduction to Romance Philology. Two credit hours. The year. Prerequisite, four years of collegiate French and some reading knowledge of Italian and Spanish. Mr. Bowen.

Origin and distribution of the Romance Languages and dialects. Comparative phonology and morphology of French, Italian, and Spanish. Peculiarities of syntax. Lectures, with interpretation of illustrative texts.

***203-204. Old Provençal.** One credit hour. The year. Prerequisite, four years of collegiate French. Mr. Bowen.

*Not given in 1914-1915.

Study of the language and literature of the Troubadours. Appel's Provenzalische Chrestomathie (Leipzig, 3rd edition); Grandgent's Provençal Phonology, and Morphology.

205-206. History of the Literary Movement in France in the First Half of the Nineteenth Century. Two credit hours. The year. Prerequisite, three years of collegiate French. Mr. Bruce.

207-208. Research in French Literature. Three to ten credit hours. The year. Prerequisite, not less than four years of collegiate French and the permission of the instructor in charge. Mr. Bowen.

These courses are designed to meet the needs of individual graduate students who are pursuing a major study in the department of Romance Languages. The work will be chosen in one of the following fields: (a) classical drama; (b) modern drama; (c) the novel; (d) poetry; (e) literature of the medieval period.

209-210. Research in Spanish Literature. Three to ten credit hours. The year. Prerequisite, not less than three years of collegiate Spanish and the permission of the instructor in charge. Mr. Ingraham.

These courses are designed to meet the needs of individual graduate students who are pursuing a major study in the department of Romance Languages. The work will lie in one of the following fields: (a) the drama; (b) the novel.

The attention of all students in Romance Languages is called to Courses III and II2 in Latin, given by Professor Elden, on the subject of Roman and Comparative Literature. These courses are strongly recommended.

SOCIOLOGY

(See Economics and Sociology)

SPANISH

(See Romance Languages)

ZOOLOGY AND ENTOMOLOGY

Office, Room I, Biological Hall

PROFESSOR OSBORN, PROFESSOR LANDACRE, ASSOCIATE PROFESSOR
HINE, ASSISTANT PROFESSOR BARROWS, MR. KOSTIR, MISS
ICKES, MISS OSBORN, MISS HOWE, MR. DRAKE,
MR. LATHROP, MR. PRICE, MR. SHADLE,
AND STUDENT ASSISTANTS

101-102. Elementary Zoology. Three credit hours. The year. Laboratory and lectures. Mr. Osborn, Mr. Landacre, Mr. Barrows, and assistants.

An introductory general course intended to give an acquaintance with animal life and the principles of biology and as a foundation for more advanced courses.

103. Comparative Anatomy of the Vertebrates: Vertebrates of Birds. Three to five credit hours. First semester. Prerequisite, Course 101-102, or equivalent. Mr. Landacre.

104. Comparative Anatomy of Vertebrates: Birds and Mammals. Three to five credit hours. Second semester. Prerequisite, Course 103. Mr. Landacre.

107-108. Economic Entomology. Three credit hours. The year. A general course in Entomology with special reference to economic species. Prerequisite, Zoology 101-102.

119. Gross Anatomy of the Frog. Three to five credit hours. First semester. Mr. Landacre.

120. Embryology of the Frog. Three to five credit hours. Second semester. Prerequisite, Course 101-102 or 119. Mr. Landacre.

121-122. Invertebrate Morphology. Three to five credit hours. The year. Prerequisite, Course 101-102. Mr. Osborn.

125. Vertebrate Embryology, Karyokinesis, and the Early Development of Amphioxus, Fishes, and Amphibians. Three to five credit hours. First semester. Prerequisite, Courses 101-102. Mr. Landacre.

126. Vertebrate Embryology: Birds and Mammals. Three to five credit hours. Second semester. Prerequisite, Course 101-102. Mr. Landacre.

129-130. Quantitative Studies in Variation, Heredity, and Animal Behavior. Two and four credit hours. The year. Prerequisite, Course 101-102, or equivalent. Mr. Barrows.

139. Ornithology. Two credit hours. First semester. The first semester is devoted to the anatomy of the birds and to the study of museum specimens. Mr. Hine.

140. Ornithology. Two credit hours. Second semester. This semester is devoted to systematic and field work. Mr. Hine.

131-132. Evolution. Three credit hours. The year. Prerequisite, one year of Zoology or an equivalent. Mr. Osborn, Mr. Landacre.

A discussion of the facts and theories of the origin, development, and distribution of animal life. The first semester deals chiefly with variation, heredity, ontogeny, and the structural basis of evolution. The second semester is devoted to a study of isolation, adaptation, geographical and geological distribution as related to the evolution of animals.

For Advanced Undergraduates and Graduates

133. Comparative Neurology. Three to five credit hours. First semester. The origin and structure of the nervous system of the lower vertebrates. Mr. Landacre.

134. Comparative Neurology. Three to five credit hours. Second semester. The origin and structure of the nervous system of the higher vertebrates. Mr. Landacre.

135-136. Cytology. Three to five credit hours. The year. Prerequisite, Courses 101-102, 103, 104, or 121-122.

137-138. Advanced Entomology. Three to five credit hours. Prerequisite, Courses 101-102 and 107-108. Mr. Osborn.

141-142. Research Work. Subject to be assigned. Five to ten credit hours. The year. Prerequisite, Courses 101-102, and the equivalent of 103-104, or 121-122, or 125, 126. Mr. Osborn, Mr. Landacre.

143-144. Seminar. One credit hour. The year. Mr. Osborn, Mr. Landacre.

For Graduates

223-224. Invertebrate Embryology. Three to five credit hours. The year. For graduates only. Prerequisite, Courses 101-102, 103, 104, or equivalent. Mr. Osborn.

247-248. Invertebrate Zoology. The year. Five credit hours. Prerequisite 101-102, 103, 104 or equivalent. Mr. Osborn.

249-250. Vertebrate Embryology. Three to five credit hours. The year. Subject to be assigned. Mr. Landacre.

GENERAL INFORMATION

THE BRYAN PRIZE

Through the generosity of Hon. William J. Bryan an annual prize of twenty-five dollars is offered for the best essay on the principles underlying the form of government of the United States. Competition for this prize is open to all students of the University. For further information, make inquiry of the head of the department of American History.

THE APPOINTMENT COMMITTEE

In order to serve the schools of the State, the University Faculty has provided a committee, one of the duties of which is to assist graduates of the University to teaching positions for which they are best fitted. Any student of the University intending to teach is invited to enroll his name with the committee on a blank provided for that purpose by the committee. Graduates of the University who are already engaged in teaching are also cordially invited to correspond with the Appointment Committee with a view to bettering their positions. Correspondence is invited from Boards of Education and from Superintendents and Principals of Schools in need of teachers. No fee is charged for the services of the committee.

FEES

All fees must be paid at the opening of each semester as a condition of admission to classes. Registration is not complete until certain incidental and laboratory fees are paid.

Incidental Fee—The fee for students who are residents of Ohio is \$15.00 a semester. For non-residents, the fee is \$20.00 a semester. Students must reside in Ohio one year before they are eligible under the resident fee. Children of non-resident Alumni pay the same fee as residents of Ohio.

Also, resident students who elect five hours or less in the College of Law pay a fee of \$7.50 per semester, non-residents, \$10.00; more than five hours, for resident students, \$22.50, non-resident, \$25.00 per semester.

Former students who do not pay this fee until the third day of the first semester, and the second day of the second semester, must pay one dollar additional. For each day of delinquency thereafter fifty cents is added.

Laboratory Deposit—Students are required to pay for all materials consumed in laboratory work. To meet the cost of these materials a deposit for each course requiring such supplies is made at the Bursar's office before the work is begun. In Chemistry the deposit is \$10.00; in Zoology it is \$2.00. All laboratory supplies are sold at the General Store Room, Chemistry Hall, to students at cost to the University, and charged against the deposits. Any unused part of the deposit is refunded at the end of the semester.

OTHER EXPENSES

Locker Fee—The gymnasium is free to all students, but those desiring to use a locker are charged a fee of two dollars a semester, which includes the rental of towels.

Cadet Uniform—The uniform with which the members of the regiment are required to provide themselves costs (without overcoat) about twelve dollars. It is quiet in pattern, and may be worn in place of civilian dress. New students are advised against buying second-hand uniforms unless they have previously been inspected and approved by the Commandant. Inspection has shown in many cases that the second-hand uniforms were unfit to wear and certainly not worth the price asked for them. All such uniforms are subject to rejection by the Commandant. Students should not arrange for uniforms until so directed by the military authorities.

The Ohio Union—A fee of one dollar a semester is paid by all male students at registration. This entitles the student to all the privileges of the Union, consistent with the Constitution and House Rules governing it.

Auditor's Fee—On presentation to the Bursar of the written consent of the head of a department, and on the payment to the Bursar of an auditor's fee of one dollar, any person engaged in teaching is permitted to attend, in that department, any class or course (not to exceed three hours a week for one-half year) which is announced to be especially for teachers or those intending to teach.

Graduation Fee—A fee of five dollars, to cover expense of graduation and diploma, is required of each person receiving one of the ordinary degrees from the University, and this fee must be paid on

or before the last Friday preceding Commencement. A like fee of ten dollars is charged each person receiving one of the higher graduate degrees.

Rooms and Board—Furnished rooms, accommodating two students, can be rented at one dollar to one dollar and a half per week for each student. Board at the restaurants and boarding clubs near the University costs from three dollars and twenty-five cents to three dollars and fifty cents per week. The Ohio Union Commons offers board to men at reasonable rates. Board with furnished rooms can be obtained in private families at rates varying from five and a half to six dollars per week.

Text-books—Students should not purchase text-books until they are advised by the instructors of their respective classes.

EXPENSES PER YEAR

One of the most perplexing questions that confronts a prospective student is what the course is going to cost him a year.

In order to furnish information, we have listed below an estimate of the average payments required by the University for the freshman year in the College of Arts, Philosophy, and Science, and have estimated the cost for room and boarding at a safe price. These two items are sometimes reduced slightly where two students occupy the same room and where boarding clubs are economically managed. Fees to the University are paid one-half at the beginning of each semester.

Incidental fee.....	\$ 30 00
Ohio Union....	2 00
Gymnasium locker.....	4 00
Deposits (if Chemistry is elected).....	20 00
Uniform.....	12 00
Books.....	15 00
Board—(36 weeks at \$3.50 per week).....	126 00
Room rent, at \$8.00 per month.....	72 00
General expenses.....	100 00
	<hr/>
	\$381 00

The item of general expenses is always subject to the personal habits of the individual, and varies according to the degree of economy exercised.

Note—In order to meet all the necessary expenses of registration, book, uniform, and other expenditures incident to securing a room and board, a student should come prepared to expend from \$65.00 to \$75.00 during the first ten days of a semester. After that period, his board and room rent will constitute the major part of his expenses.

Women Students

As far as possible, women students should make arrangements for room and board in advance. An effort will be made to secure suitable accommodations in private residences for such as cannot be accommodated in Oxley Hall. Prospective women students should address Miss Caroline Breyfogle, Dean of Women, Ohio State University, Columbus, Ohio.

Self Support

There is a large amount of work on the University farm and campus and in the gardens, orchards, and greenhouses, which can be done by students, for which they are paid at current rates for such labor. By this means, together with what can be earned by steady labor during the summer vacation, a considerable number of students defray all their expenses.

Preference is given to students who are willing to devote a certain number of hours each day to the work assigned.

Self-support does not relieve students from cadet service. Prospective students are advised to make note of this fact before deciding to register.

Work cannot be promised to all applicants, and is not guaranteed to any.

Applications for employment should be made to the Superintendent of the University farm, or at the Executive office.

Graduate Assistantships

To encourage graduates of this University, and of other approved institutions of learning, to continue their studies and to undertake advanced work leading to the higher degrees, the University has established assistantships in several departments. These demand about one-half of the time of the student for laboratory or other assistance—as far as possible along the line of his graduate study. The remainder of his time is given to graduate work. The assistantships pay from \$150 to \$300 for the academic year. Application for an assistantship should be made on a blank which may be obtained of the Registrar. Students working toward an assistantship in a given department should inform the head of the department of that fact as early as possible in their undergraduate course.

Christian Associations

The Young Men's Christian Association has come to occupy a prominent place in University life. It has a membership of about six hundred men, and is affiliated with the World's Student Christian Federation.

Religious meetings are held for men on Wednesday evenings; there are also frequent meetings for the promotion of social intercourse and good fellowship. Courses in systematic Bible study and in modern missions are offered. A most helpful feature of the work is that in the interest of new students at the opening of the school year. Desirable rooms and boarding places are found and posted for reference at the Association office. Representatives of the Association meet the trains, assist students in finding satisfactory locations, and endeavor in every way to make them feel at home. The Employment Bureau helps to find work.

A copy of the Student's Handbook, giving information about Columbus, the University, and the various college organizations and activities, will be sent free to prospective students. For this handbook or for further information, address the General Secretary of the State University Y. M. C. A., University Campus, Columbus, Ohio.

The Young Women's Christian Association holds religious meetings regularly at noon on Tuesdays. This organization is active and efficient in working for the highest interests of the young women.

University Pastors

The Methodist Episcopal and the Presbyterian churches have stationed pastors at the University to serve students of their respective churches and others who may desire it. The local pastors of other denominations also take a sympathetic interest in the students who attend their churches.

TIME SCHEDULE

Colleges of Arts and Education

The following courses and sections are intended primarily for students in the Colleges of Arts and Education. The number of students from the two colleges, who may be admitted to each section is indicated by the figures in parenthesis. Assignment to sections will be made strictly according to the order of receipt of the elective cards and students will be admitted to the sections they elect, provided those sections are not already filled.

Students from the Colleges of Arts and Education must not elect courses or sections not listed here without first consulting the secretary of their college.

AGRICULTURAL CHEMISTRY

Course	No. in Section	Hours	Time	Room	Instructor
123		5	M., W., at 8 Lab., M., 9 to 12; F., 8 to 11; M., F., 1 to 4		Lyman
124		5	Tu., Th., at 8 Lab., M., F., 9 to 12 M., F., 1 to 4		

AMERICAN HISTORY

101-102	(35)	3	M., W., F., at 8	L. 117	Schlesinger
101-102	(35)	3	M., W., F., at 8	U. 205	Knight
101-102	(35)	3	M., W., F., at 9	U. 205	Hockett
101-102	(35)	3	M., W., F., at 1	U. 205	Hockett
101-102	(35)	3	M., W., F., at 1	L. 117	Schlesinger
101-102	(35)	3	Tu., Th., S., at 11	U. 205	Schlesinger
101	(35)	3	Tu., Th., S., at 9	U. 205	Schlesinger
103-104		3	M., W., F., at 11	U. 205	Hockett
107-108		2	Tu., Th., at 11	U. 202	Hockett
109-110		2	M., F., at 10	U. 205	Schlesinger
111		3	M., W., F., at 2	U. 205	Knight
112		3	M., W., F., at 2	U. 205	Knight
119-120		2	Tu., Th., at 10	L. 313	Hockett
121		2	Tu., Th., at 9	U. 205	Knight
123-124		3	M., W., F., at 3	U. 205	Knight
205-206		2	M., 4 to 6	L. 313	Knight

ANATOMY AND PHYSIOLOGY

Course	No. in Section	Hours	Time	Room	Instructor
101-102	(5)	3	M., W., F., at 8	Bi. Mus.	Durrant
101-102	(30)	3	M., W., F., at 9	Bi. 21	Bleile
101-102	(10)	3	M., W., F., at 2	Bi. Mus.	Seymour
101-102	(10)	3	M., W., F., at 3	Bi. 21	Seymour
101-102	(10)	3	Tu., Th., S., at 8	Bi. 21	Allen
101-102	(10)	3	Tu., Th., S., at 9	Bi. 3d Fl.	Seymour
104		3	Th., F., 1 to 4	Bi. 17	Bleile, Seymour
105-106		5	M., T., W., 1 to 4	Bi. { 12, 13, } { 14, 15, } { 17, 21 }	Bleile Seymour Durrant
109-110		3	To be arranged		Bleile
111-112		5	To be arranged		Bleile
115		3	M., W., F., at 11	Bi. 21	Bleile
118		3	M., W., F., at 11	Bi. 21	Bleile, Durrant
119-120		3	Tu., Th., S., at 9	Bi. 21	Bleile, Seymour
201-202		3	To be arranged		Bleile, Seymour
203-204		5	To be arranged		Bleile, Seymour

ART

101-102	(7)	2	M., 1 to 3	Ha. 20	{ Robinson Shephard
	(18)		Th., 8 to 10	Ha. 20	
	(5)		Th., 1 to 3	Ha. 20	
	(5)		F., 8 to 10	Ha. 20	
103-104		2-4	L., Tu., at 8	Ha. 19	Shephard
			Lab., M., 9 to 11	Ha. 20	Dachnowski
			Lab., M., 1 to 3	Ha. 20	Robinson
			Lab., Tu., 1 to 3		
			Lab., Th., 1 to 3		
103		2	M., at 8	Ha. 20	Shephard
			Lab., M., 9 to 11	Ha. 20	Dachnowski
			Lab., W., 1 to 3	Ha. 20	Robinson
105	(12)	2	W., 1 to 3	Ha. 20	Dachnowski
	(12)		Th., 10 to 12	Ha. 20	Dachnowski
106		2	Tu., 10 to 12	Ha. 20	Dachnowski
107-108		2-4	L., Tu., at 8	Ha. 20	Dachnowski
			Lab., Tu., 1 to 3	Ha. 19	Dachnowski
			Lab., W., 1 to 3	Ha. 19	Robinson
			Lab., Th., 1 to 3	Ha. 19	{ Dachnowski Shephard

Course	No. in Section	Hours	Time	Room	Instructor
109-110		2	M., 10 to 12	Ha. 20	Dachnowski
			Tu., 1 to 3	Ha. 20	
			Th., 1 to 3	Ha. 20	
111-112		3	Tu., Th., 9 to 12; F., at 10	Ha. 19	Robinson
113-114		2	F., 1 to 3	Ha. 20	Dachnowski
115-116		2	Tu., Th., 9 to 12	Ha. 19	Robinson
117-118		3	W., at 8; F., 8 to 10	Ha. 20	Dachnowski
119-120		1	W., at 4	Ha. 12e	Robinson
121-122		2	Tu., 10 to 12; W., 1-3		Shephard
121		2	F., 1 to 3		Shephard

ASTRONOMY

101-102		3	M., W., F., at 8	Obs.	Manson
101-102		3	M., W., F., at 9	Obs.	Manson
107-108		3 to 5	To be arranged	Obs.	Lord
109-110		4	To be arranged	Obs.	Lord

BACTERIOLOGY

107-108		3 to 5	L., M., W., at 8	V. L. 2b	McC Campbell
			L., Tu., Th., at 9	V. L. 2b	Morrey
			Lab., M., 1 to 4, S., 8 to 11	V. L. 5c, 1c,	Starin
			Lab., Tu., Th., 1 to 4	V. L. 5c, 1c,	Starin
			Lab., W., F., 1 to 4	V. L. 5c, 1c,	Starin
114		3 to 5	L., M., W., at 9	V. L. 2b	Morrey
			Lab., afternoons	V. L. 5c, 1c,	Morrey
116		3 to 5	L., M., W., at 11	V. L. 2b	Morrey
			Lab., afternoons	V. L. 5c, 1c,	Morrey
117-118		3 to 5	L., Tu., Th., at 1	V. L. 2b	Starin
			Lab., Tu., Th., 2 to 5	V. L. 1c	Starin
119-120		3 to 5	To be arranged	V. L. 5c, 1c,	Starin
125-126		3 to 5	To be arranged	V. L. 5c, 1c, Morrey,	Starin

BIBLICAL LITERATURE

101-102		3	M., Tu., Th., at 10	O. 27	Breyfogle
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BOTANY

101-102		4	L., Tu., at 10	Bot. 100	Stover
			L., W., at 11	Bot. 100	Schaffner
			L., W., at 1	Bot. 100	Detmers

Course	No. in Section	Hours	Time	Room	Instructor
			Lab., M., F., 10 to 12	Bot. 108	
			Lab., Tu., Th., 8 to 10	Bot. 108	
			Lab., Tu., Th., 8 to 10	Bot. 206	
			Lab., Tu., Th., 10 to 12	Bot. 206	
			Lab., Tu., Th., 10 to 12	Bot. 108	
			Lab., Tu., Th., 1 to 3	Bot. 206	
			Lab., M., Tu., 1 to 3	Bot. 108	
			Lab., Th., F., 1 to 3	Bot. 108	
			Lab., M., F., 1 to 3	Bot. 206	
	(5)		Q., M., at 3	Bot. 208	
	(5)		Q., Tu., at 3	Bot. 208	
	(5)		Q., W., at 9	Bot. 208	
	(5)		Q., Th., at 10	Bot. 110	
	(5)		Q., Th., at 3	Bot. 208	
110	2		W., 1 to 4	Bot. 108	Schaffner
113	3		W., at 11; M., F., 9 to 11	Bot. 208	Stover
116	3		W., at 11; M., F., 10 to 12	Bot. 206	Stover
117-118	4		Tu., Th., at 9; M., W., 1 to 4	Bot. 110	Dachnowski
120	2		Saturday	Bot. 208	Griggs
121	2		W., 1 to 4	Bot. 64	Schaffner
123-124	3 to 5		W., 1 to 4, to be arranged	Bot. 210	Griggs
125-126	4		Tu. Th., at 8; Tu. Th., 1 to 4	Bot. 110	Dachnowski
127-128	3		L., Tu., Th., at 9	Bot. 208	Griggs
			Lab., Tu., Th.,	Bot. 210	
129-130	3 to 5		M., 1 to 4	Bot. 104	Schaffner
131-132	3 to 5		To be arranged		Schaffner
133-134	3		To be arranged		{ Schaffner, Griggs Dachnowski
135-136	1		M., at 4	Bot. 110	Schaffner
137-138	1		To be arranged		Schaffner
139-140	3 to 5		Lab., Tu., W., Th.,	Bot. 210	Griggs
201-202	3 to 10		To be arranged		{ Schaffner Griggs
203-204	4 to 10		To be arranged		{ Schaffner Griggs
205-206	4 to 10		To be arranged		Dachnowski
207-208	3 to 10		To be arranged		{ Griggs Stover

CHEMISTRY

Course	No. in Section	Hours	Time	Room	Instructor
105-106		4	L., M., at 8	Ch. 200	Evans
			L., M., at 3	Ch. 200	Evans
			Q. Tu. at 8	Ch. 301	
			Q., Tu., at 10		
			Q., Tu., at 11	Ch. 302	
			Q., Th., at 9		
			Q., Th., at 11		
			Q., Th., at 1		
			Q., Th., at 2		
			Q., Th., at 3	Ch. 301	
			Q., F., at 2	Ch. 301	
			Q., F., at 3	Ch. 301	
	(15)		Lab., M., Tu., 1 to 4	Ch. 1, 6	
	(15)		Lab., Th., F., 1 to 4	Ch. 1, 6	
	(60)		Lab., M., F., 9 to 12	Ch. 1, 6	
	(15)		Lab., Tu., Th., 9 to 12	Ch. 1, 6	
	(15)		Lab., W., 1 to 4; S., 8 to 11	Ch. 1, 6	
109-110		4	L., Tu., at 8	Ch. 200	Evans
			L., W., at 11	Ch. 200	Evans
			Q., Th., at 8	Ch. 301	
			Q., Th., at 9	Ch. 301	
			Q., Th., at 10	Ch. 302	
			Q., Th., at 11	Ch. 1, 6	
			Q., Th., at 1	Ch. 1, 6	
			Q., Th., at 2	Ch. 1, 6	
			Q., Th., at 3	Ch. 1, 6	
			Q., F., at 10	Ch. 1, 6	
			Q., F., at 11	Ch. 200	Henderson
			Q., F., at 2		
	(10)		Lab., M., Tu., 1 to 4	Ch. 200	Foulk
	(10)		Lab., Th., F., 1 to 4		
	(40)		Lab., M., F., 9 to 12	Ch. 200	Foulk
	(10)		Lab., Tu., Th., 9 to 12	Ch. 200	McPherson
	(10)		Lab., W., 1 to 4; S., 8 to 11	Ch. 207	Foulk
113-114		2	Tu., Th., at 11	Ch. 101	McPherson
117		3	To be arranged		McPherson
119-120		4	L., W., at 1	Ch. 207	Henderson
			Lab. open forenoons		Henderson

Course	No. in Section	Hours	Time	Room	Instructor
124		1	F., at 10		Foulk
127		4	Tu., Th., at 1, W., F., at 8		Foulk
136		2	Tu., Th., at 10	Ch. 207	Foulk
151-152		2	Tu., Th., at 8	Ch. 207	Withrow
153-154	2 to 3		To be arranged	Ch. 207	Withrow
157-158	3		M., W., F., at 11	Ch. 207	Withrow
161-162	2 to 3		To be arranged	Ch. 207	Withrow
165	3 to 5		Tu., Th., at 10		Henderson
168	3 to 5		L., Tu., at 1	Ch. 302	Henderson
176	3		Tu., Th., at 9	Ch. 207	Withrow
177	2		Tu., Th., at 8		
178	1		W., at 8		Henderson
185	2		M., Tu., 1 to 4		McPherson
186	3		W., Th., F., 1 to 4		Henderson
187-188	2 to 3		To be arranged	Ch. 302	Henderson
192	2 to 3		W., F., at 8		McPherson
194	2		W., F., at 8	Ch. 302	
196	2		To be arranged		
201-202	3		To be arranged		
205-206	3 to 5		To be arranged	Ch. 302	
209-210	3		To be arranged	Ch. 302	
213	2		W., F., at 8	Ch. 302	
215	2		To be arranged	Ch. 302	
218	2		To be arranged		Evans
227	2		To be arranged		Foulk
231-232	1		W., at 9	Ch. 302	McPherson
235-236	5 to 10		To be arranged		

ECONOMICS AND SOCIOLOGY

ECONOMICS

131-131	(35)	3	M., W., F., at 9	P. 108	Drury
131-131	(35)	3	M., W., F., at 1	P. 108	Walradt
133-133	(35)	3	M., W., F., at 1	U. 209	Renz
133-133	(35)	3	M., W., F., at 9	U. 209	Huntington
135-136	(20)	3	M., W., F., at 8	P. 103	Drury
135-136	(10)	3	M., W., F., at 8	Orton	
135-136	(35)	3	Tu., Th., S., at 8	P. 108	Ruggles
135-136	(15)	3	M., W., F., at 9	Orton	
135-136	(15)	3	M., W., F., at 9	P. 6	

Course	No. in Section	Hours	Time	Room	Instructor
135-136	(15)	3	M., W., F., at 9	P. 5	
135-136	(15)	3	Tu., Th., F., at 10	U. 209	Drury
135-136	(15)	3	Tu., Th., F., at 10	Orton	
135-136	(20)	3	M., W., F., at 11	P. 107	Parry
135-136	(15)	3	M., W., F., at 11	P. 108	
135-136	(30)	3	M., W., F., at 1	Orton	
135-136	(30)	3	M., W., F., at 2	P. 107	Parry
135-136	(35)	3	M., W., F., at 3	P. 107	Drury
136		3	Tu., Th., S., at 10	P. 108	Walradt
135		3	Tu., Th., S., at 10	P. 108	Walradt
139-140	(10)	2	Tu., Th., at 8	U. 209	Huntington
139-140	(20)	2	Tu., Th., at 8	P. 107	
139-140	(15)	2	Tu., Th., at 9	U. 209	
143		3	Tu., Th., S., at 9	P. 108	Ruggles
145-146		2	M., 3 to 5	Orton	Ruggles
141-144		2	Tu., Th., at 11	P. 108	Walradt
153-154		3	M., W., F., at 9	P. 107	Walradt
155		3	M., W., F., at 2	Orton	Ruggles
159		3	M., W., F., at 11	U. 309	Huntington
160-162		3	Tu., Th., F., at 10	P. 107	Parry
161		3	M., W., F., at 11	U. 209	Hagerty
163		3	M., W., F., at 1	U. 306	Huntington
165-166		3	M., W., F., at 8	U. 405	Hammond
167		3	M., W., F., at 2	Orton	Ruggles
169-170		2	To be arranged		Parry
171-172		3	M., W., F., at 8	U. 209	Huntington
175		3	M., W., F., at 11	U. 209	Ruggles
177		2	Tu., Th., at 8	U. 205	Mark
207-208		2	M., 4 to 6	L.	All instructors
SOCIOLOGY					
101-102	(20)	3	M., W., F., at 8	U. 321	Hagerty
101-102	(20)	3	M., W., F., at 8	P. 107	Bruder
101-102	(20)	3	M., W., F., at 9	P. 103	Renz
101-102	(35)	3	Tu., Th., S., at 9	P. 107	Bruder
101-102	(35)	3	M., W., F., at 2	U. 209	Renz
101-102	(20)	3	M., W., F., at 3	U. 209	Renz
104-105		3	M., W., F., at 1	U. 309	Bruder
107		3	M., W., F., at 8	P. 108	Renz
109-110		3	M., W., F., at 9	L. 117	Hagerty

Course	No. in Section	Hours	Time	Room	Instructor
115-116		2	To be arranged		Hagerty
117-118		2	M., 3 to 5	L. Sem.	Hagerty
120		2	M., W., F., at 9	P. 4	Renz
122		2	Tu., Th., at 8	U. 205	Mark
207-208		2	M., 4 to 6	L.	All instructors

ENGLISH

101-104	(25)	2	Tu., Th., at 8		
101-104	(25)	2	Tu., Th., at 9		
101-104	(25)	2	Tu., Th., at 10		
101-104	(150)	2	Tu., Th., at 11		
101-104	(10)	2	Tu., Th., at 1		
101-104	(10)	2	Tu., Th., at 2		
101-104	(150)	2	Tu., Th., at 3		
101-104		2	M., F., at 10		
104-101		2	S., 8 to 10		Cooper
104-101		2	W., F., at 8		
105-106		2	Tu., Th., at 11		Beck
107-108		2	Tu., Th., at 11		Graves
111-112		2	Tu., Th., at 8		Duncan
121-122		2	Tu., Th., at 10		Ketcham
121-122		2	Tu., Th., at 1		Ketcham
123-124		2	Tu., Th., at 2		Ketcham
125-126		2	Tu., Th., at 9		Ketcham
127-128		2	Tu., Th., at 11		McKnight
131-134	(50)	3	Tu., Th., S., at 8		Beck
131-134	(50)	3	M., W., F., at 9		Cooper
131-134	(50)	3	M., W., F., at 11		Duncan
131-134	(50)	3	S., 10 to 12		Cooper
134-131	(50)	3	M., W., F., at 8		Taylor
134-131	(50)	3	M., W., F., at 1		Graves
135-136		2	Tu., Th., at 2		Cooper
137-138		2	Tu., Th., at 11		Denney
139-140		2	Tu., Th., at 9		Duncan
141-142		3	M., Tu., Th., at 10		Taylor
151-152		3	M., W., F., at 1		McKnight
153-154		2	Tu., Th., at 3		McKnight
155-156		3	M., W., F., at 9		Taylor
157-158		3	M., W., F., at 2		Graves
165-166		2	Tu., Th., at 10		McKnight
167-168		3	M., W., F., at 11		Denney

Course	No. in Section	Hours	Time	Room	Instructor
169-170		2	Tu., Th., at 1	.	Cooper
181-182		2	M., F., at 10		Denney
201-202		2	W., 4 to 6		Graves
205-206		2	M., 4 to 6		Denney
207-208		2	Tu., 4 to 6		Taylor
209-210		2	F., 4 to 6		McKnight
211-212		2	S., 9 to 11		Duncan
219-220		2	To be arranged		Denney

EUROPEAN HISTORY

101-102	(35)	3	M., W., F., at 8	U. 201	Perkins
101-102	(35)	3	M., W., F., at 8	U. 202	Harris
101-102	(35)	3	M., W., F., at 9	U. 201	Perkins
101-102	(35)	3	M., W., F., at 11	U. 202	Siebert
101-102	(35)	3	M., W., F., at 11	U. 313	Harris
101-102	(35)	3	M., W., F., at 1	U. 201	McNeal
101-102	(35)	3	M., W., F., at 2	U. 201	McNeal
101-102	(35)	3	Tu., Th., F., at 10	U. 202	Harris
103-104	(35)	3	Tu., Th., F., at 10	U. 201	Perkins
103-104	(35)	3	M., W., F., at 9	U. 405	Harris
103-104	(35)	3	Tu., Th., at 3; S., at 10	U. 201	Harris
105-106		3	M., W., F., at 11	U. 201	McNeal
107-108		2	Tu., Th., at 11	U. 201	McNeal
109-110		3	Tu., Th., at 10	U. 204	Siebert
111-112		3	M., W., F., at 1	U. 202	Perkins
113-114		3	M., W., F., at 9	U. 202	Siebert
117-118		2	Tu., Th., at 9	U. 202	Siebert
121-122		2	Tu., Th., at 10	U. 205	McNeal
152		2	Tu., 2 to 4	U. 202	Siebert, Perkins
201-202		2	To be arranged		McNeal
203-204		2	Th., 3 to 5	U. 202	Siebert

GEOLOGY

101-102	(50)	3	M., W., F., at 8	O. 4, 18	Hills
101-102	(50)	3	M., W., F., at 9	O. 27, 18	Hills
101-102	(50)	3	M., W., F., at 1	O. 4, 18	Bownocker

Field trips Saturday

103		3	M., W., F., at 9	O. 4	Bownocker
104		3	M., W., F., at 9	O. 4	Prosser

Course	No. in Section	Hours	Time	Room	Instructor
105		3 to 5	To be arranged	O. 13	Prosser
106		3	To be arranged	O. 9	Bownocker
107-108		2 to 5	To be arranged	O. 13	Prosser
111-112		3 to 5	To be arranged	O. 18	Hills
113-114		2 to 5	To be arranged	O. 13	Prosser, Hills
115		1	Th., at 1	O. 9	Bownocker
141-142		2 to 5	To be arranged	O. 18	Hills
166		2	Th., at 11; W., 2 to 4	O. 9	Bownocker, Hills
167		3	M., W., F., at 8	O. 9	Bownocker
201-202		3 to 5	To be arranged	O. 13	Prosser
203-204		3 to 5	To be arranged	O. 1	

GERMAN

101-102	(30)	4	Tu., W., Th., F., at 8	U. 320	Busey
101-102	(20)	4	M., Tu., Th., F., at 9	U. 320	Lewisohn
101-102	(30)	4	M., Tu., Th., F., at 9	U. 406	Rey
101-102	(30)	4	M., Tu., Th., F., at 10	U. 320	Evans
101-102		4	M., Tu., Th., F., at 10	U. 406	Rey
101-102	(5)	4	M., Tu., Th., F., at 11	U. 320	Keidel
101-102		4	M., Tu., Th., F., at 11		
101-102	(35)	4	M., Tu., Th., F., at 1	U. 320	Kotz
101-102	(15)	4	M., Tu., Th., F., at 2	U. 320	Nordmeyer
101-102	(20)	4	Tu., W., Th., F., at 3	U. 320	Thomas
102		4	Tu., W., Th., F., at 8	U. 406	Eisenlohr
103	(30)	4	Tu., W., Th., F., at 8	U. 319	Keidel
103	(30)	4	M., Tu., Th., F., at 9	U. 319	Busey
103	(30)	4	M., Tu., Th., F., at 10	U. 319	Eisenlohr
103	(10)	4	M., Tu., Th., F., at 11	U. 406	Lewisohn
103	(30)	4	M., Tu., Th., F., at 1	U. 319	Thomas
103	(12)	4	M., Tu., Th., F., at 2	U. 319	Thomas
103	(15)	4	Tu., W., Th., F., at 3	U. 319	Nordmeyer
104		4	Tu., W., Th., F., at 8	P. 109	Kotz
104		4	Tu., W., Th., F., at 8	U. 319	
104		4	M., Tu., Th., F., at 9	U. 319	
104		4	M., Tu., Th., F., at 10	U. 319	
104		4	M., Tu., Th., F., at 11	U. 406	
104		4	M., Tu., Th., F., at 1	U. 319	
104		4	M., Tu., Th., F., at 2	U. 319	
106		4	M., Tu., Th., F., at 9	P. 109	

Course	No. in Section	Hours	Time	Room	Instructor
106		4	M., Tu., Th., F., at 10	P. 109	
106		4	Tu., W., Th., F., at 3	U. 319	
107-108		4	M., Tu., Th., F., at 10	U. 309	Busey
107-108		4	M., Tu., Th., F., at 10	U. 410	Kotz
115-116		2	Tu., Th., at 9	U. 201	Kotz
115-116		2	M., F., at 10	U. 200	Keidel
117-118		2	Tu., Th., at 11	U. 309	Thomas
119-120		2	Tu., Th., at 10	L. 117	Lewisohn
119-120		2	Tu., Th., at 3	U. 308	Keidel
131-132		2	Tu., Th., at 9	U. 400	Eisenlohr
131-132		2	Tu., Th., at 11	U. 319	Busey
133-134		2	M., Tu., Th., F., at 9	U. 403	Keidel
153-154		3	M., W., F., at 11	U. 319	Evans
155-156		2	Tu., Th., at 11	U. 321	Eisenlohr
159-160		2	Tu., Th., at 8	U. 202	Barrows
161-162		2	To be arranged		Thomas
163-164		2	M., F., at 10	L. 117	Lewisohn
171-172		2	Tu., Th., at 2	U. 321	Eisenlohr
173-174		2	Tu., Th., at 3	U. 321	Evans
177-178		2	M., W., at 3	U. 321	Busey
207-208		2	To be arranged	L.	Lewisohn
215-216		2	Tu., at 4 to 6	U. 317	Evans

GREEK LANGUAGE AND LITERATURE

101-102	4	M., Tu., Th., F., at 11	U. 316
105-106	4	M., Tu., Th., F., at 2	U. 305
107-108	3	To be arranged	
115-116	2	Tu., Th., at 1	U. 306
123-124	2	Tu., Th., at 3	U. 306

HISTORY AND PHILOSOPHY OF EDUCATION

101-102	3	M., W., F., at 11	O. M.	Anderson
101-102	3	M., W., F., at 4	O. M.	Anderson
103-104	2	M., W., at 3	O. M.	Anderson
105-106	2	Tu., Th., at 3	O. M.	Anderson
107-108	2	W., F., at 2	O. M.	Anderson
109-110	2	Tu., Th., at 10	O. M.	Anderson
121-122	1	Tu., at 4	O. M.	Anderson
23-124	1	Th., at 4	O. M.	Anderson

Course	No. in Section	Hours	Time	Room	Instructor
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HOME ECONOMICS

101-102		5	L., W., F., at 11	Ha. 12. E	White
	(5)		Lab., M., F., 10 to 12	Ha. 3.	White
	(5)		Lab., M., F., 2 to 4	Ha. 3.	White
	(10)		Lab., Tu., Th., 10 to 12	Ha. 3.	White
	(10)		Lab., Tu., Th., 2 to 4	Ha. 3.	White
	(5)		Lab., Tu., Th., 8 to 10	Ha. 3.	White
104-104		3	M., W., F., at 9	Ha. 12. E	White
105-106		2 to 5	L., F., at 10	Ha. 9.	Van Meter
			Lab., to be arranged	Ha. 9.	
108-109		2	Th., at 11; 1 hr. to be arranged	Ha. 12. E	{ Van Meter, Hathaway
110		4	Tu., Th., at 9		Hathaway
			Lab., Tu., Th., 10 to 12	Ha. 3.	White
110		4	Tu., Th., at 9	Ha. 3.	
			Lab., Tu., Th., 10 to 12	Ha. 3.	White
			M., F., 10 to 12	Ha. 3.	White
111-112	(5)	2	L., W., at 11	Ha. 12. E	Walker
	(5)		L., Th., at 8	Ha. 12. E	Walker
	(25)		L., Tu., at 3	Ha. 12. E	Walker
	(18)		Lab., Tu., 8 to 10	Ha. 12. E	Walker
	(5)		Lab., W., 8 to 10	Ha. 9. 10	Walker, Rogers
	(5)		Lab., F., 8 to 10	Ha. 9. 10	Walker, Rogers
	(7)		Lab., Tu., 1 to 3	Ha. 9. 10	Walker, Rogers
113		3	L., Th., at 3	Ha. 12. E	Hathaway
			Lab., M., F., 1 to 3	Ha. 9. 10	Blohm
			Lab., Tu., Th., 10 to 12	Ha. 9. 10	Blohm
			L., W., at 11		
			Lab., M., F., 10 to 12		
118		3	L. W., at 11		Blohm
			Lab., M., F., 10 to 12		Blohm
116		3	W., at 11	Ha. 9. 10	Hathaway
			Lab., M., F., 1 to 3		
			Lab., Tu., Th., 10 to 12		
119-119		3	M., W., F., at 9	Ha. 12. E	Blohm

LATIN

147-148		4	Tu., W., Th., F., at 8	U. 316	Derby
149-150		4	M., Tu., Th., F., at 10	U. 307	Derby
101-102	(20)	4	M., Tu., Th., F., at 10	U. 316	Elden

Course	No. in Section	Hours	Time	Room	Instructor
101-102	(20)	4	M., Tu., Th., F., at 11	U. 306	Hodgman
101-102	(20)	4	M., Tu., Th., F., at 2	U. 308	Derby
103-104		3	M., W., F., at 9	U. 306	Hodgman
103-104		3	M., W., F., at 2	U. 316	Elden
105		2	Tu., Th., at 9	U. 316	Elden
106		2	Tu., Th., at 9	U. 316	Hodgman
107-108		1	W., at 2	U. 306	Derby
111-112		1	W., at 3	U. 316	Elden
113-114		3	M., W., F., at 9	U. 316	Elden
115-116		3	M., Tu., F., at 10	U. 306	Hodgman
123-124		1	Th., at 10	U. 306	Hodgman
125-126		1	F., at 3	U. 316	Elden
119-120	1 to 2	To be arranged			Hodgman
121-122	2	M., W., at 3		U. 306	Hodgman, Elden
201-202	1	To be arranged			Hodgman
213-214	2 to 3	To be arranged			Derby

MANUAL TRAINING

111-112	3	Tu., Th., at 8	Ha.	Usry
117-118	2	To be arranged	Ha.	Usry
121-122	2	L., Th., at 11	Ha.	Usry
		Lab., M., 1 to 3		
		M., 2 to 4		
		Tu., 10 to 12		

MATHEMATICS

101-102	5	Daily at 9	Lo. 208	Minor
113-114	5	Daily at 8	U. 403	Preston
121-122	(35)	Tu., Th., at 9	U. 311	Swartzel
		Lab., Tu., or W., 2 to 4		
	(50)	Tu., Th., at 10	U. 313	
		Lab., Tu., 8 to 10; or		
		Th., 2 to 4		
	(40)	Tu., Th., at 1	U. 310	Arnold
		Lab., Th., 8 to 10; or	U. 321	Bareis
		Tu., 2 to 4	U. 310-313	Bareis
127-128	3	M., W., F., at 9	U. 311	Kuhn
		Lab., Th., 2 to 4	U. 313	West
131-132	(25)	Daily at 8	U. 313	Swartzel
132-131	5	Daily at 8	U. 308	Rickard

Course	No. in Section	Hours	Time	Room	Instructor
141-142	(20)	5	Daily at 8	U. 311	Kuhn
163-164		3	M., W., F., at 3	U. 313	Morris
167-168		3	M., Th., F., at 10	U. 312	Bohannan
173-174		3	M., Tu., Th., at 10	U. 311	Kuhn
175-176		3	M., Tu., Th., at 10	U. 310	Arnold
201-202d		3	M., W., F., at 9	L. 301	Rasor
201g		3	M., Tu., F., at 10	U. 313	Swartzel
202v		3	M., Tu., F., at 10	U. 313	Swartzel

MECHANICS

101-102	5	Daily at 8	Lo. 232	Boyd
	5	Daily at 9	Lo. 232	Boyd
	5	Daily at 11	Lo. 231	Coddington
104	2	M., F., at 10	Lo. 232	Boyd
105-106	3	To be arranged		Boyd, Coddington

MINERALOGY

102	3	M., Tu., Th., F., at 9	Lo. 107	McCaughey
104	3	M., W., F., at 9	Lo. 107	McCaughey
121	3	To be arranged	Lo. 107	McCaughey
126	3	To be arranged	Lo. 107	McCaughey

METEOROLOGY

101-102	2	Tu., Th., at 4	T. 205	Smith
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MILITARY SCIENCE AND TACTICS

1- 1	1	M., W., F., at 11; Th., at 4	Armory	Converse
	1	M., Tu., W., Th., at 4	Armory	Converse
2- 2	1	M., W., F., at 11	Armory	Converse
	1	M., Tu., W., at 4	Armory	Converse

PHILOSOPHY

102-101	3	M., W., F., at 9	U. 321	Leighton
102-101	3	M., W., F., at 1	U. 321	Chandler
102-101	3	Tu., Th., S., at 10	U. 405	Chandler
151-152	3	M., W., F., at 11	U. 321	Leighton
111-112	2	Tu., Th., at 11	U. 405	Chandler
115-116	2	Tu., Th., at 2	U. 405	Chandler
121-122	2	M., W., at 2	U. 321	Leighton

Course	No. in Section	Hours	Time	Room	Instructor
137-138		2	Tu., Th., at 3	U. 405	Chandler
201-202			To be arranged		Leighton
207-208			To be arranged		Leighton

PHYSICAL EDUCATION

FOR MEN

101	I	L., M., at 10	Gym.	{ Wingert, Ohlson, Bartholomew
		L., Tu., at 3		
		L., W., at 1		
		L., W., at 3		
		L., Th., at 11		
		L., F., at 3		
		Lab., one period		
		M., at 9, 10, 11, 2, or 3		
		Tu., at 9, 10, 11, 2, or 3		
		W., at 9, 11, 2, or 3		
102	I	Any two days	Gym.	{ Wingert, Ohl- son, Barth- olomew
		M., at 9, 10, 11, 2, or 3		
		Tu., at 9, 10, 11, 2, or 3		
		W., at 9, 11, 2, or 3		
		Th., at 9, 10, 11, 2, or 3		
		F., at 9, 10, 11, 2, 3, or 4		

FOR WOMEN

Freshmen	I	M., Tu., Th., F., at 9	Gym.	Goetz, Sauer
		M., Tu., Th., F., at 10	Gym.	Goetz, Sauer
Sophomore	I	W., 9 (2 lessons) and 2,	Gym.	Goetz, Sauer
		other days at 9		
		M., Tu., W., Th., F., at 11	Gym.	Goetz, Sauer
Advanced		L., Tu., Th., F., at 1	Gym.	Goetz
		Practise, M., W., at 1	Gym.	Goetz

PHYSICS

103-104	4	Tu., W., F., at 8	Ph. 51, 31	Earhart
		Lab., W., 2 to 4, Th., 8 to 10, F., 2 to 4		
105-106 (24)	4	L., Tu., Th., at 10	Ph. 51	Blake

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE

III

Course	No. in Section	Hours	Time	Room	Instructor
	(24)		L., Tu., Th., at 1	Ph. 51	Blake
			Lab., Tu., Th., 8 to 10	Ph. 31	Blake
			Lab., Tu., Th., 2 to 4	Ph. 31	Blake
III-III2	3		L., M., W., at 9	Ph. 46	Cole
			L., W., F., at 11	Ph. 46	Cole
			Q., M., at 8		
			Q., M., at 11		
			Q., M., at 3	Ph. 51	
			Q., F., at 8		
			Q., F., at 9		
			Lab., Tu., 2 to 4	Ph. 53, 57, 58	
			Lab., W., 2 to 4	Ph. 53, 57, 58	
			Lab., Th., 2 to 4	Ph. 53, 57, 58	
			Lab., F., 2 to 4	Ph. 53, 57, 58	
			Lab., S., 8 to 10	Ph. 53, 57, 58	
III5-III6	2				
121-122	3 to 5		M., Tu., W., 1 to 4	Ph. 31	Smith
123-124	3 to 5		M., Tu., W., 1 to 4	Ph. 15	Barnett
127-128	3 to 5		To be arranged	Ph. 30	Smith
141-142	3		M., Tu., Th., at 8		Blake, Earhart
145-146	1		M., at 4	Ph. 51	Cole
168-170	2		To be arranged		Cole
201-202	3 to 5		To be arranged		
203-204	3		To be arranged		Blake
207-208	3		To be arranged		Smith
211-212	2		To be arranged		Earhart, Blake
215-216	2		To be arranged		Cole

POLITICAL SCIENCE

101	(35)	3	M., W., F., at 8	U. 200	Coker
101	(35)	3	M., W., F., at 2	U. 200	Spencer
101	(35)	3	Tu., Th., S., at 10	U. 200	Coker
102	(35)	3	M., W., F., at 8	U. 200	Coker
102	(35)	3	M., W., F., at 2	U. 200	Spencer
102	(35)	3	Tu., Th., S., at 10	U. 200	Spencer
101		3	Tu., Th., S., at 10	U. 411	Coker
125		3	M., W., F., at 11	U. 200	Spencer
126		3	M., W., F., at 11	U. 200	Spencer
131		2	Tu., Th., at 9	U. 200	Coker

Course	No. in Section	Hours	Time	Room	Instructor
132		2	Tu., Th., at 9	U. 200	Coker
106		3	M., W., F., at 9	U. 200	Spencer
130		3	M., W., F., at 9	U. 200	Coker
109		3	M., W., F., at 3	U. 200	Spencer
129		3	M., W., F., at 2	U. 200	Coker
127-128		1	To be arranged	U. 200	Coker
117-118		2	To be arranged	U. 200	Spencer

PRINCIPLES AND PRACTISE OF EDUCATION

101	3	M., W., F., at 1	O. M.	Lowden
102	3	Daily., 12 to 2	O. M.	Lowden
111-112	3	M., W., F., at 3	O. M.	Lowden

PSYCHOLOGY

101-102	3	M., W., F. at 8	U. 400	Weiss
101-102	3	M., W., F., at 9	U. 400	Haines
101-102	3	M., W., F., at 11	U. 400	Major
101-102	3	M., W., F., at 1	U. 400	Pintner
101-102	3	M., W., F., at 2	U. 400	Arps
101-102	3	M., W., F., at 3	U. 400	Pintner
101-102	3	Tu., Th., S., at 11	U. 400	Weiss
101	3	M., W., F., at 3	U. 412	Arps
107-108	2	M., W., at 1	U. 406	Arps
111-112	3	Tu., 1 to 4; Th., 2 to 4	U. 415	Arps, Weiss
115-116	2	Tu., Th., at 11	U. 410	Pintner
119	3	M., F., 10 to 12; W., at 11	U. 411	Weiss
121-122	3	M., W., F., at 11; S., at 9	U. 403	Haines
125-126	3	M., W., F., at 12	U. 416	Haines
128-129	2	Tu., Th., at 1	U. 410	
133-134	2 to 5	M., Tu., W., Th., F., 2 to 4	U. 403, 410, 411	Major, Pintner
141-142	2 to 5	Tu., Th., 2 to 4	U. 406	Arps, Weiss
143-144	2 to 5	To be arranged		Arps
145-146	2 to 5	M., W., F., 2 to 4	U. 415	Major
147-148	2	Tu., 9 to 11	U. 415	Haines

ROMANCE LANGUAGES

FRENCH

101-102	(25)	4	Tu., W., Th., F., at 8	U. 303	Bruce
101-102	(30)	4	M., Tu., Th., F., at 9	U. 301	Ditchy

Course	No. in Section	Hours	Time	Room	Instructor
101-102	(35)	4	M., Tu., Th., F., at 10	U. 401	Hamilton
101-102	(20)	4	M., Tu., Th., F., at 10	U. 403	Medici
101-102	(30)	4	M., Tu., Th., F., at 11	U. 303	Chapin
101-102	(10)	4	M., Tu., Th., F., at 11	U. 401	Pierce
101-102	(34)	4	M., Tu., Th., F., at 1	U. 302	Ditchy
101-102	(25)	4	M., Tu., Th., F., at 2	U. 301	Hamilton
101-102	(25)	4	Tu., W., Th., F., at 3	U. 301	Chapin
101-102	(30)	4	Tu., Th., F., at 4	U. 303	Bruce
103-104	(33)	4	Tu., W., Th., F., at 8	U. 302	Chapin
103-104	(33)	4	M., Tu., Th., F., at 9	U. 303	Moore
103-104	(35)	4	M., Tu., Th., F., at 10	U. 302	Bruce
103-104	(15)	4	M., Tu., Th., F., at 10	U. 412	Chapin
103-104	(20)	4	M., Tu., Th., F., at 11	U. 302	Ditchy
103-104	(32)	4	M., Tu., Th., F., at 1	U. 301	Hamilton
106		4	M., Tu., Th., F., at 10	U. 308	Chapin
107-108		2	Tu., Th., at 8	U. 301	Ingraham
107		2	Tu., Th., at 9	U. 410	Pierce
109-110		3	M., Th., F., at 10	U. 301	Pierce
109-110		3	M., W., F., at 8	U. 410	Pierce
111-112		3	M., W., F., at 8	U. 301	Ingraham
115-116		2	Tu., Th., at 9	U. 405	Bruce
117-118		2	M., 3 to 5	U. 305	Bowen
119-120		2	Tu., 3 to 5	U. 305	Bowen

ITALIAN

103-104	2	Tu., Th., at 2	U. 201	Bruce
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SPANISH

101-102	(5)	4	M., Tu., Th., F., at 9	U. 302	Hamilton
101-102	(10)	4	M., Tu., Th., F., at 10	U. 303	Bowen
101-102	(10)	4	M., Tu., Th., F., at 2	U. 302	Chapin
103-104		4	M., Tu., Th., F., at 11	U. 301	Ingraham
105-106		2	Tu., Th., at 10	U. 305	Ingraham
201-202		2	To be arranged	U. 305	Bowen
205-206		2	To be arranged	U. 305	Bruce
207-208	3 to 10		To be arranged	U. 305	Bowen
209-210	3 to 10		To be arranged	U. 305	Ingraham

Course	No. in Section	Hours	Time	Room	Instructor
SCHOOL ADMINISTRATION					
101-102	3		Tu., W., Th., at 4	U. Base.	
103-104	1		Th., at 2	U. Base.	
105-106	2 to 5		To be arranged	U. Base.	
111-112	3		Tu., W., Th., at 3	U. Base.	
122	2		Tu., Th., at 10	U. Base.	Bricker
123-124	3		Tu., W., Th., at 11	U. Base.	Bricker
127	2		M., W., at 2	U. Base.	Bricker
132	2		M., W., at 2	U. Base.	Bricker

ZOOLOGY AND ENTOMOLOGY

101-102	(25)	3	L., Tu., Th., at 8	Z.	{ Osborn, Landacre, Barrows, Kostir
	(90)		L., Tu., Th., at 9	Z.	
	(60)		L., Tu., Th., at 1	Z.	{ Barrows, Assistants, Fellows
			L., Tu., Th., at 4	Z.	
	(10)		Lab., M., 1 to 3	Z.	
	(50)		Lab., Tu., 10 to 12	Z.	
	(25)		Lab., W., 8 to 10	Z.	
	(10)		Lab., W., 1 to 3	Z.	Landacre
	(50)		Lab., Th., 8 to 10	Z.	
	(10)		Lab., Th., 1 to 3	Z.	
	(30)		Lab., S., 10 to 12	Z.	
103-104	3 to 5		L., W., at 1	Z.	Landacre
			Lab., W., Th., F., 1 to 4	Z.	
107-108	3		L., M., F., at 10	Z.	Hine, Osborn
			Lab., Tu., 8 to 10	Z.	
			Lab., Th., 10 to 12	Z.	
			Lab., S., 8 to 10	Z.	
119-120	3 to 5		To be arranged	Z.	Landacre
121-122	3 to 5		L., W., at 11	Z.	Osborn
			Lab., Tu., Th., F., 1 to 3	Z.	Osborn
125-126	3 to 5		L., Th., at 1	Z.	Landacre
			Lab., Th., F., 1 to 4	Z.	Landacre
129	2		Tu., Th., at 10	Z.	Barrows
130	4		Tu., Th., at 10	Z.	Barrows

Course	No. in Section	Hours	Time	Room	Instructor
131-132	3		M., W., F., at 8	Z.	Osborn, Landacre
133-134	3 to 5		L., Tu., at 1	Z.	Landacre
			Lab., to be arranged		
135-136	3 to 5		To be arranged	Z.	Landacre
137-138	3 to 5		L., M., W., at 3		Osborn
			Lab., M., F., 1 to 3		Osborn
139-140	2		L., M., W., at 10	Z.	Hine
			Lab., to be arranged		Hine
141-142	5 to 10		To be arranged	Z.	Osborn, Landacre
143-144	1		Tu., at 4	Z.	Osborn, Landacre
223-224	3 to 5		To be arranged	Z.	Osborn
247-248	5		To be arranged	Z.	Osborn
249-250	3 to 5		To be arranged	Z.	Osborn

The Ohio State University Bulletin is issued at least twenty times during the year; monthly in July, August, September, and June, and bi-weekly in October, November, December, January, February, March, April, and May.

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The Ohio State University Bulletin

VOLUME XIX

FEBRUARY, 1915

NUMBER 12

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE

1915-1916

PUBLISHED BY THE UNIVERSITY AT COLUMBUS

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P. D. W.

UNIVERSITY CALENDAR

1915

- Entrance examinations, Tuesday to Saturday, June 8 to 12, 8 a. m.
- Summer Session, June 21 to August 13.
- Entrance examinations, Tuesday to Saturday, September 14 to 18, 8 a. m.
- Registration Day, first semester, Tuesday, September 21.
- President's Annual Address, Friday, September 24, 11 a. m.
- Latest date for registration of candidates for a degree at the Commencement of June, 1916, Friday, October 1.
- Registration Day, Three-Year Course in Agriculture, First Term, Monday, October 11.
- Date for mid-semester reports to the Deans concerning delinquent students, Wednesday, November 17.
- Thanksgiving recess begins November 24, 6 p. m., and ends November 30, 8 a. m.
- Christmas recess begins Saturday, December 18, 12 m.

1916

- Christmas recess ends Tuesday, January 4, 8 a. m.
- Registration Day, Three-Year Course in Agriculture, Second Term, Tuesday, January 4.
- Final examinations Thursday, January 27, to Thursday, February 3.
- First semester ends Thursday, February 3, 6 p. m.
- Registration Day, second semester, Tuesday, February 8.
- Washington's Birthday, Tuesday, February 22.
- Close of Second Term, Three-Year Course in Agriculture, Friday, March 17.
- Mid-semester reports to the Deans, Saturday, March 18.
- Easter recess, Thursday, April 20, 6 p. m., to Tuesday, April 25, 8 a. m.
- Memorial Day, Tuesday, May 30.
- Competitive Drill—Cadet Regiment—Saturday, June 3.
- Commencement, Tuesday, June 6.
- Final examinations, Wednesday, June 7, to Wednesday, June 14.
- Entrance examinations, Tuesday, June 20, to Saturday, June 24, 8 a. m.

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THE OHIO STATE UNIVERSITY

The Ohio State University is a part of the educational facilities maintained by the State and is located in the northern part of the city of Columbus. It is reached from the Union Station by North High Street or Neil Avenue electric cars.

Organization

For convenience of administration, the departments of the University are grouped into organizations called colleges. The Ohio State University comprises ten colleges and a graduate school, each under the administration of a Dean and College Faculty, as follows:

Graduate School	College of Homeopathic
College of Agriculture	Medicine
College of Arts, Philosophy and Science	College of Law
College of Education	College of Medicine
College of Engineering	College of Pharmacy
College of Dentistry	College of Veterinary Medicine

SUMMER SESSION

In addition to the above, there is a Summer Session under the supervision of a Director and governing committee for the administration of the regular University courses offered in the summer.

This bulletin is devoted exclusively to the work of the College of Arts, Philosophy and Science for the academic year, 1915-16.

[NOTE—The University publishes a bulletin descriptive of each College. Copies may be obtained by addressing L. E. Wolfe, Secretary of the Entrance Board, Columbus, Ohio, and stating the college in which the writer is interested.]

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE

This College comprises those courses of study that are designed to furnish a liberal education in the languages and literatures, the sciences, mathematics, philosophy, history, politics, economics, sociology, and preparation for commerce, law, medicine, philanthropic work, administration, journalism, and the higher positions in teaching.

DEPARTMENTS

The College of Arts, Philosophy and Science includes work in the following departments: American History, Anatomy, Astronomy, Bacteriology, Biblical Literature, Botany, Chemistry, Economics and Sociology, English, European History, Geology, German, Greek, Journalism, Latin, Mathematics, Military Science and Tactics, Philosophy, Physical Education, Physics, Physiology, Political Science, Psychology, Romance Languages, Zoology and Entomology.

GRADUATE COURSES

The graduate instruction offered by the departments represented in this Bulletin is given in the Graduate School. A special bulletin describing the organization, admission requirements, and work of the Graduate School may be obtained on application to the Secretary of the Entrance Board.

SUMMER SESSION

The University maintains a summer session for eight weeks, in which most of the courses offered are credited by this college. Two summer sessions are considered the equivalent of one semester, and four summer sessions the equivalent of the year.

THE LAKE LABORATORY

The University maintains a Lake Laboratory at Sandusky during the summer vacation, which is designed to provide opportunity for the investigation of the biology of the lake region, and for giving certain courses of instruction in the departments of Botany and Zoology and Entomology. For further information write for a special bulletin, which may be obtained from the Secretary of the Entrance Board.

BUSINESS ADMINISTRATION AND SOCIAL SERVICE JOURNALISM

Students desiring to prepare themselves to pursue a business career or to engage in philanthropic work or journalism are invited to send to the Secretary of the Entrance Board for special bulletins describing these courses.

RESIDENCE REQUIREMENT

No undergraduate will be admitted to candidacy for a degree at any Commencement who has not done the last year of work required for the degree in residence in this college. No student will be registered in such candidacy later than the first day of October.

ADMISSION

The College is open on equal terms to both sexes. Applicants for admission must be at least sixteen years of age.

THE ENTRANCE BOARD

The admission of students is in charge of the University Entrance Board, which determines the credits that shall be issued on all entrance examinations and certificates, and furnishes all desired information to applicants. Correspondence relating to admission should be addressed to the Entrance Board, Ohio State University, Columbus.

ADMISSION TO CURRICULA LEADING TO A DEGREE

In compliance with the laws of the state of Ohio, the holder of a diploma from a first-grade high school in the state, will be admitted to the College of Arts, Philosophy and Science upon presentation of his high school certificate.

Other applicants may be admitted without examination on presentation of properly indorsed certificates from such secondary schools as have been accredited or recognized by the University, or from approved normal schools, or from the State Board of School Examiners.

For admission **by examination or by certificate** see the **Bulletin of General Information**.

Distribution of Units

In order to form a broad foundation for the course in Liberal Arts the following distribution of units is strongly recommended: three in English; one in History; one in Algebra and one in Geometry; one in Physics or Chemistry; four in foreign language and four at large. If the distribution of units does not meet the above recommendation the student will be required to carry courses in the University to make up the deficiency and this may delay his graduation.

No student under twenty-one years of age will be admitted on certificate if he is conditioned in more than two of the

fifteen units. All entrance conditions must be removed within two years after admission.

Students over twenty-one years of age are admitted in accordance with the provisions stated under "Admission to Special Studies." See the **Bulletin of General Information**.

REQUIREMENTS FOR GRADUATION

THE GROUP ELECTIVE SYSTEM

The work of the College of Arts, Philosophy, and Science is organized on the group elective system. A part of every student's curriculum is prescribed by the regulations given below. Each student is required to lay sufficiently broad foundations in English, other languages, the sciences, history, or economics, and in mathematics, philosophy, or psychology. The remainder of the student's work is elective.

On satisfactory completion of 120 semester hours in addition to Military Drill and Physical Education, under the regulations prescribed below, the student will be recommended for the degree of Bachelor of Arts.

The departments in which credit may be obtained are arranged in the following four groups:

(A) Languages and Literatures

English, German, Greek Language and Literature, Latin Language and Literature, Romance Languages and Literatures.

(B) Natural Sciences

Anatomy, Astronomy, Bacteriology, Botany, Chemistry, Geology, Physics, Physiology, Zoology and Entomology.

(C) Social Sciences

American History, Economics and Sociology, European History, Political Science.

(D) Mathematics—Philosophy

Mathematics, Philosophy, Psychology.

Courses Open to Freshmen

The following are the only courses open to Freshmen:

English 101-104, 2 credit hours; English 131-133, 3 credit hours.

French 101-102, 4 credit hours; French 103-104 (for students who enter with two units in French), 4 credit hours; French 107-112, (for students who enter with four units of French), 2 or 3 credit hours.

German 101-102, 4 credit hours; German 103-104 (for students who enter with two units in German), 4 credit hours; German 107-108 (for students who enter with four units of German), 4 credit hours.

Greek 101-102, 4 credit hours; Greek 105-106 (for students who enter with two units in Greek), 4 credit hours.

Latin 101-102 (for students who enter with three or four units in Latin), 4 credit hours.

Latin 147-148 (for students who enter with no Latin).

Latin 149-150 (for students who enter with two units of Latin).

Spanish 101-102, 4 credit hours; Spanish 103-104 (for students who enter with two units in Spanish), 4 credit hours.

Botany 101-102, 4 credit hours.

Zoology 101-102, 3 credit hours.

Astronomy 101-102, 3 credit hours.

Chemistry 105-106, 4 credit hours; Chemistry 109-110, (for students who enter with one unit in Chemistry), 4 credit hours.

Geology 101-102, 3 credit hours.

Physics 103-104, 4 credit hours, Physics 105-106 (for students who enter with one unit in Physics), 4 credit hours.

American History 101-102, 3 credit hours.

Economics 131-133, 3 credit hours.

European History 101-102, 3 credit hours.

Mathematics 121-122, 3 credit hours; Mathematics 131-132, 5 credit hours; Mathematics 123-124, 1 credit hour.

Mathematics 103-104 (for students who enter without Mathematics).

Philosophy 101-102, 3 credit hours.

Psychology 101-102, 3 credit hours.

Drill; Physical Training.

REGULATIONS

1. Military Drill is required of all men during the first and second years.

Physical Training is prescribed for all men during the first year and for all women during the first and second years.

2. Group Requirements:

(A) Languages and Literatures:

(1) English composition, four hours, must be taken by all students. English literature, three hours, must also be taken by those students who have not credit for three entrance units in English.

(2) In high school and college together the student must secure credit in at least two languages other than English. For those who enter with six units in languages other than English, the college requirement is eight hours; for those with five units, twelve hours; four units sixteen hours; three units, twenty hours; two units, twenty-four hours; one unit, twenty-eight hours; no units, thirty-two hours. The student may not offer less than a year's work in any foreign language.

(B) Natural Science:

(1) Every student is required to secure credit for at least six semester hours in one biological science (Botany, Physiology, Zoology, or Bacteriology); but students who enter with one unit in Botany or one unit in Zoology are excused from this requirement.

(2) Every student is required to secure credit for at least twelve semester hours in non-biological science (Astronomy, Chemistry, Geology, or Physics), of which at least a one-year course shall be in Chemistry, or Physics; but for students who enter with a unit of either Chemistry or Physics, the requirement is six semester hours in one of the sciences in this group, and students who enter with one unit in Chemistry and one unit in Physics are excused from the non-biological science requirement.

(C) **Social Sciences:**

Every student is required to secure credit for at least twelve semester hours in the Social Science Group, of which at least six semester hours shall be in European or American history; but for students who offer one or more units of history for entrance the requirement is six semester hours in one of the Social Sciences.

(D) **Mathematics, Philosophy, Psychology:**

Every student must secure credit either in high school or in college for Algebra through Quadratics, and for Plane Geometry. He must in addition secure credit in college for six semester hours in Mathematics, or Philosophy, or Psychology.

3. Maxima and Minima: At least 36 hours of the 120 hours required for the degree must be in some one of the groups mentioned above, and at least 18 in some other one of the groups mentioned above. In no one of the groups may more than 60 hours be credited for the degree, exclusive of the requirements noted above.

4. Courses Open to Freshmen: At least 36 hours of the 120 hours required for the degree must be in courses not open to freshmen. (Courses open to freshmen, if elected by seniors, give credit diminished by one hour.)

5. Amount of Work: Each year's work must consist of 15 or 16 hours work each semester. On petition to the Executive Committee a student who shows exceptional proficiency may take from one to three extra hours, but in no case will more than 18 hours be permitted. No extra hours will be granted to the first-year student or to a student having conditions outstanding.

6. Work in Other Colleges: Any student, after completing sixty hours of work in the College of Arts, Philosophy, and Science, may, upon petition, elect not to exceed five hours a semester during the remaining two years from work offered in any other college, except the Colleges of Law, Medicine and Homeopathic Medicine and Dentistry.

RULES GOVERNING ELECTIONS

Each student enrolled in the College of Arts, Philosophy and Science is requested to file at the Registrar's office by June 1st of each year a complete statement of the courses he wishes to enter the following year. Blanks for this purpose may be obtained of the Registrar.

The following rules have been adopted by the Faculty and Board of Trustees governing the filing of election-cards and changes in these cards.

Students in the Colleges of Agriculture, Arts and Education who were in residence the previous year must file their election cards before **September 1st**. Election cards will be accepted from such students after September 1st **only upon the payment of \$1.00**.

Changes, at the request of the student, **will not be made** in these cards **after September 1st, except on the payment of \$1.00 for each change**.

These fees may be remitted, in exceptional cases, by the executive committee of the college.

COMBINATION CURRICULA

ARTS-LAW

Students desiring the degree of Bachelor of Arts in the College of Arts, Philosophy and Science, and the degree of Bachelor of Laws in the College of Law, may, by complying with the regulations below, obtain the two degrees in six years.

On satisfactory completion of the three years' work, comprising ninety-three semester hours, in the College of Arts, Philosophy and Science, and the first year in the College of Law of this University, under the usual regulations governing work in each of the two colleges (except as indicated below), the student will be recommended for the degree of Bachelor of Arts.

All regulations applying to students in the College of Arts, Philosophy and Science apply in the combined Arts-Law curriculum except as modified by the following statements:

1. No student is eligible for the combined Arts-Law curriculum who has not been a student in the College of Arts, Philosophy and Science of this University at least one full

year. Students entering the College of Arts, Philosophy and Science with advanced standing will be held to the requirements as strictly as other students.

2. At least thirty-three of the ninety-three semester hours of Arts College subjects required for the degree in Arts must be in one group, (preferably the Social Science Group) and eighteen in some other one group. In no one of the groups may more than forty hours be credited for the degree, exclusive of the requirements made in Regulations 2, 3, 4, and 5.

3. At least thirty-three of the ninety-three hours of Arts College subjects required for the degree must be in courses not open to freshmen.

4. Business Law (Economics 149) may not be counted towards the degree in the combined Arts-Law course.

5. In order to have the first year of Law counted towards the Arts degree, the student must have maintained a uniform record of good scholarship in the College of Arts, Philosophy and Science, and have completed the entire requisite ninety-three hours of work in that college before the work in the College of Law is entered upon. He must also maintain good scholarship in the College of Law. The question of the applicant's eligibility to the combined course will be determined by the Executive Committee of the Arts College.

The work of all students taking studies in the two colleges at the same time is under the jurisdiction of a joint committee, consisting of the Dean and Secretary of the College of Arts, Philosophy and Science and of the College of Law.

ARTS-EDUCATION

Two Degrees

Students who have received credits for one hundred and forty hours exclusive of the requirement in Military Drill and Physical Training, and who have met all requirements of the College of Arts, Philosophy and Science for the degree, Bachelor of Arts and who have met all the requirements of the General Curriculum in the College of Education for the degree Bachelor of Science in Education, will be granted both degrees. Applicants for both degrees must register in both colleges.

ARTS-ENGINEERING

The entrance requirements for the combined curriculum shall be the same as for the College of Arts except that one unit of Physics is required.

A candidate for the degree of Bachelor of Arts, while registered in the College of Arts, Philosophy and Science, may also register in the College of Engineering, provided that at the time of seeking such registration in the College of Engineering he has ninety semester hours to his credit in the College of Arts, Philosophy and Science, exclusive of the credit hours in Military Drill and Physical Education, and including the following subjects:

Mathematics, 131, 132, 141, 142, 20 hours; Chemistry, 105 and 106, or 109 and 110, 8 hours; Modern Language, French, German, or Spanish, 16 hours; English 101 and 104, 4 hours; Social Science, 6 hours; Biological Science, 6 hours; Physics, 113 and 114, 10 hours; Engineering Drawing, 101 and 102, 5 hours; Arts Electives, 15 hours; total 90 hours.

Eighty semester hours of the above work shall be in those subjects mentioned in the four groups (see page 11).

When the candidate has obtained 124 semester hours in the two colleges exclusive of Military Drill and Physical Training, 100 semester hours of which shall be subjects accepted by the Arts College, the candidate shall receive the degree of Bachelor of Arts. This will ordinarily be at the end of one year's residence in the College of Engineering. At least six semester hours, other than mechanics, of the above mentioned 100 hours, must have been earned during the first year of residence in the College of Engineering. At the end of two more years, by doing the regular amount of work, the candidate will have completed the requirements for any one of the Engineering degrees, and will be recommended for the appropriate degree.

ARTS-AGRICULTURE, ARTS-HORTICULTURE AND ARTS-HOME ECONOMICS

The Colleges of Arts and Agriculture have co-operated in organizing curricula in Agriculture, Horticulture and Home Economics that will combine the work of these two colleges.

The curricula are five years in length and lead to a degree from each college. Students taking these combined curricula will be registered in the College of Arts for the first three years and in the College of Agriculture for the last two. Upon the completion of the fourth year, students will be given a degree from the College of Arts and upon the completion of the fifth year a degree from the College of Agriculture.

These curricula have been established for students who desire more Arts College work than can be given in a technical course and more technical work than can be given in an Arts College. For the details of these curricula see the Agriculture Bulletin.

THE ARTS-MEDICINE AND ARTS-HOMEOPATHIC MEDICINE CURRICULA

Seven Years

This course includes the first three years of the curriculum of the College of Arts, Philosophy and Science and the four years' curriculum of the College of Medicine or of Homeopathic Medicine. On the conditions prescribed below, the degree of Bachelor of Arts is conferred at the end of the first year of the course in medicine, and the degree of Doctor of Medicine at the end of the fourth year of the course in medicine.

Admission to the College of Arts—Required: English, 3 units; Language other than English, 4 units; History, 1 unit; Physics or Chemistry, 1 unit; Mathematics, 2 units; Elective, 4 units. Total 15 units.

Residence in the College of Arts—The privilege of entering the Arts-Medicine Course is open only to those who spend at least one of the three undergraduate years in residence in the College of Arts, Philosophy and Science of the Ohio State University.

Standing—The privilege of counting the first year of Medicine as the senior year in Arts is open only to those students who during the three years in Arts, Philosophy and Science maintain a standing of at least "A" (average).

Group-Requirements—During the three years in Arts, the student must fulfill the group-requirements for the degree of

Bachelor of Arts and further must include in his Arts course the following:

(a) Physics: 8 semester hours (four semester hours for those entering with credit for one unit of Physics).

(b) Chemistry: 15 semester hours (eight semester hours for those entering with credit for one unit of Chemistry).

(c) Biology: 12 semester hours comprising General Zoology, 3 semester hours (Zoology 101); Comparative Anatomy of Vertebrates, 3 semester hours (Anatomy 101), and Physiology 101-102, 6 semester hours.

Electives—No part of the course in Medicine may be counted as elective in the College of Arts, Philosophy and Science, during the three undergraduate years.

Degrees—When the student has completed at least 90 hours as above, in addition to Military Drill and Physical Training, he may enroll in either of the Colleges of Medicine, and when he has gained credit for the first year's work in Medicine, he will be recommended by the Faculty of the College of Arts, Philosophy and Science for the degree of Bachelor of Arts. When he has gained credit for the second, third, and fourth years' work in Medicine, he will be recommended by the Faculty of the College of Medicine or of Homeopathic Medicine for the degree of Doctor of Medicine.

SCIENCE-MEDICINE AND SCIENCE-HOMEOPATHIC MEDICINE

Six Years

This course includes the first two years of the curriculum of the College of Arts, Philosophy and Science and the four years curriculum of the College of Medicine or of Homeopathic Medicine. On conditions prescribed below, the degree of Bachelor of Science is conferred at the end of the second year of the course in Medicine, and the degree of Doctor of Medicine at the end of the fourth year of the course in Medicine.

Admission—The same as for the Arts-Medicine Course.

Residence—The same as for the Arts-Medicine Course, (substituting two years for three years).

Standing—The privilege of counting the first two years in

Medicine as the last two years in the College of Arts, Philosophy, and Science is open only to those who maintain a standing of at least "A" (average).

Curriculum—First Year: Foreign Language, French, or German preferred, 8 semester hours; Physics, 8 semester hours (4 semester hours for those entering with one unit of high-school Physics); Zoology 101, 3 semester hours; Anatomy 102, 3 semester hours; Chemistry, 8 semester hours. Students entering with credit for one unit of Chemistry will defer the required Chemistry until the second year, substituting therefore in the first year the required American History and English Composition of the second year.

Second Year: Foreign Language, French or German preferred, 8 semester hours; Physiology 101-102, 6 semester hours; Psychology, 6 semester hours; American History, 6 semester hours; English Composition, 4 semester hours.

Regulations—The curriculum above may be modified in individual cases in accordance with the regulations of the College of Arts, Philosophy and Science.

Degrees—When the student has completed at least 60 hours as above, in addition to Military Drill and Physical Training, he may enroll in either of the Colleges of Medicine, and when he has gained credit for the first two years' work in medicine, he will be recommended by the Faculty of the College of Arts, Philosophy, and Science for the degree of Bachelor of Science. When he has gained credit for the third and fourth year's work in medicine he will be recommended by the Faculty of the College of Medicine or of Homeopathic Medicine for the degree of Doctor of Medicine.

SPECIAL ANNOUNCEMENTS

The combination courses of Science-Medicine and Arts-Medicine are open to students of colleges and universities that have no medical departments. Each college must determine, however, the time of residence required before matriculating in the College of Medicine and the required residence in the Medical College before granting the academic degree.

In the interest of higher educational ideals, the Ohio State University invites the co-operation of colleges and universities in an effort to popularize these courses.

DEPARTMENTS OF INSTRUCTION

AMERICAN HISTORY

Office 207, University Hall

PROFESSORS KNIGHT, HOCKETT, ASSISTANT PROFESSOR
SCHLESINGER, MR. BACOT

101-102. History of the United States (1763-1912). Three credit hours. The year. Mr. Hockett, Mr. Schlesinger, Mr. Bacot.

American History 101 is given also in the second semester.

This course comprises a study of the history of the United States, in which political, constitutional, and economic phases receive chief attention. The first semester covers the period 1763-1829. The second semester treats the period 1829-1912. Text-book, discussion, and collateral readings. This course must precede all other courses in American History.

107. Formation of the Constitution. Two credit hours. First semester. Prerequisite, American History 101-102. Political Science 101 will be found a valuable adjunct to this course. Mr. Hockett.

Beginning with a brief study of the constitutional ideas of Americans in the revolutionary period, the course traces the formation of the federal constitution by the convention of 1787, and discusses the constitutional problems involved in the establishment of the government. Lectures, discussion, and reports.

108. Constitutional History of the United States. Two credit hours. Second semester. Prerequisite, American History 101-102. American History 107 affords a good foundation, and Political Science 101 a valuable adjunct. Mr. Hockett.

The chief controversies over the interpretation of the constitution and the effects of these controversies upon the evolution of the American constitutional system. Such questions are dealt with as the acquisition of territory, internal improvements, the tariff, slavery, and the relations of the nation and the states. Lectures, discussion, and reports.

109. Early Political Parties in the United States. Two

credit hours. First semester. Prerequisite, American History 101-102. Mr. Schlesinger.

The radical party of the Revolution; the evolution and growth of national parties in the period thereafter until 1852; the relation of social and economic forces to parties; the influence of newspapers on public opinion; the rise of great party leaders. Lectures, discussion, and research in contemporary newspapers and other material. Given biennially, alternating with American History 125.

110. Political Parties in the United States (1852-1912). Two credit hours. Second semester. Prerequisite, American History 101-102. American History 109 affords a good foundation. Mr. Schlesinger.

The development of national parties in the period from 1852 to the election of Woodrow Wilson, special attention being devoted to the effect of the Civil War on parties, and to the influence of the new economic and social conditions in creating new parties and policies. Lectures, discussion, and reports. Given biennially, alternating with American History 126.

103-104. The American Colonies, 1600-1783. Three credit hours. The year. Prerequisite, American History 101-102. Mr. Bacot.

The general history of the English colonies in America, with especial emphasis on European conditions affecting colonization, the development of government in the several colonies, and relations with the mother country, including the struggle for independence. Lectures, discussion, and reports.

For Advanced Undergraduates and Graduates

For all courses in this group, the prerequisite is four semesters in the Social Science group, of which at least two must be in American History.

119-120. Introduction to Historical Research. Two credit hours. The year. Prerequisite, four semesters in American History. Mr. Hockett.

Practice in simple historical methods, such as the use of catalogs and finding lists, the collecting and criticising of material, and its organization in historical composition. Each

student is required to prepare topics involving the use of source material. Designed especially for students who expect to teach American History in secondary schools, or to pursue graduate work in this field.

***111. The Slavery Struggle to 1854.** Three credit hours. First semester. Given biennially, alternating with American History 113. Prerequisites, American History 101-102, and at least two other semesters in the Social Science group. Mr. Schlesinger.

***112. The Slavery Struggle and its Results, 1854-1900.** Three credit hours. Second semester. Given biennially, alternating with American History 114. Prerequisite, American History 101-102, and at least two other semesters in the Social Science group. Mr. Schlesinger.

American History 111 and 112 comprises a detailed study of the development of slavery in its connection with and influence upon the constitutional and political history of the country, the rise and fall of parties, and the divergence of the sections, its relation to the Civil War; the results of the struggle traced in the reconstruction of the southern states and the readjustment of society and of the states, to the new status of the negro. Lectures, discussion, and reports.

113. Early American Diplomacy, 1776-1850. Three credit hours. First semester. Prerequisites, American History 101-102, and at least two other semesters in the Social Science group. Mr. Schlesinger.

The foreign relations of the United States, beginning with the diplomacy which resulted in the establishment of independence and including such subjects as the struggle for neutral rights and commercial recognition, the extension of territory on the continent, and the origin of the Monroe Doctrine. Lectures, discussion, and reports. Given biennially, alternating with American History 111.

114. Problems of American Diplomacy Since 1850. Three credit hours. Second semester. Prerequisites, American History 101-102 and at least two other semesters in the Social Science group. Mr. Knight.

The later problems in the diplomacy of the United States,

*Not given in 1915-1916.

growing out of the Civil War, the development of the Monroe Doctrine, the acquisition of dependencies, relations with Latin America and the Orient, arbitration, the Isthmian canal, and neutral rights during the Great War in Europe. Lectures, discussion, and reports. Given biennially, alternating with American History 112.

115. The History of the Westward Movement to 1812.

Three credit hours. First semester. Prerequisites, American History 101-102 and at least two other semesters in the Social Science group. Mr. Hockett.

The westward advance of settlement from the Atlantic coast, across the Alleghanies, into the Ohio Valley, dealing with the causes of the movement, the rise of new communities, and the influence of western development upon national history and institutions. It is essentially a study of the development of American society. Lectures, discussion, and assigned readings.

116. The History of the Westward Movement since 1812.

Three credit hours. Second semester. Prerequisites, American History 101-102 and two other semesters in the Social Science group. Mr. Hockett.

The progress of settlement in the Mississippi Valley, and westward to the Pacific, studying the territorial acquisitions, the fur trade of the far West, the discoveries of gold and silver, the extension of railways to the Pacific, the Indian wars, the significance of the disappearance of the frontier, the irrigation and conservation movements, etc.

123-124. Recent History of the United States, 1870-1910.

Three credit hours. The year. Prerequisites, American History 101-102 and at least two other semesters in the Social Science group. Economics 135-136 will be found a valuable adjunct to this course. Mr. Knight.

An intensive study of the political, constitutional, industrial, and social life of the nation and the states during the past generation; it includes a consideration of new applications of the constitution, industrial development, territorial expansion, the entry of the United States into the world politics, third party movements, and the rise of the new democracy. Lectures and individual investigation.

***125. Colonial Period of Latin America.** Two credit hours. First semester. Prerequisites, American History 101-102 and at least two other semesters in the Social Science group. Mr. Schlesinger.

The main features of Spanish and Portuguese colonization in North, Central, and South America, with special attention to the founding of the colonies, their forms of government and relations to the home countries, and the development of a Latin-American civilization. Lectures, discussion, and reports. Given biennially, alternating with American History 109.

***126. History of the Latin-American Republics.** Two credit hours. Second semester. Prerequisites, American History 101-102 and at least two other semesters in the Social group. American History 125 is a good preparatory course. Mr. Schlesinger.

The wars for independence and the political development of the Latin-American republics in the nineteenth century. Lectures, discussion, and reports. Given biennially, alternating with Course 110.

For graduate courses in this department see the Bulletin of the Graduate School.

ANATOMY

Office, 105 Biological Hall

PROFESSOR LANDACRE, MR. HOSKINS

101. Comparative Anatomy of the Vertebrates. Three to five credit hours. First semester. One recitation and five to eight laboratory hours per week. Prerequisites, Zoology 101-102 or Physiology 101-102 or an equivalent. Mr. Landacre, Mr. Hoskins.

Fishes, amphibians and reptiles.

Formerly Zoology 103.

102. Comparative Anatomy of the Vertebrates. Three to five credit hours. Second semester. One recitation and five to eight laboratory hours per week. Required of students in the Arts-Medicine and Science-Medicine courses. Prerequisite, Anatomy 101, Physiology 101, or Zoology 101, or an equivalent. Mr. Landacre. Mr. Hoskins.

*Not given in 1915-1916.

Birds and mammals.

Formerly Zoology 104.

103. Vertebrate Embryology. Three to five credit hours. First semester. One lecture or recitation and five to eight laboratory hours per week. Prerequisite, Anatomy 101-102 or an equivalent. Mr. Landacre.

Karyokinesis and the early development of fishes, amphibians and reptiles.

Formerly Zoology 125.

104. Vertebrate Embryology. Three to five credit hours. Second semester. One lecture or recitation and five to eight laboratory hours per week. Prerequisite, Anatomy 101-102 or an equivalent. Mr. Landacre.

The development of birds and mammals.

Formerly Zoology 126.

105. Anatomy of the Frog. Three to five credit hours. First semester. One lecture or recitation and five to eight laboratory hours per week. Prerequisite, Zoology 101-102 or Physiology 101-102 or an equivalent. Mr. Landacre.

The gross anatomy of the frog in addition to the preparation of tissues and organs for study.

Formerly Zoology 119.

106. Anatomy of the Frog. Three to five credit hours. Second semester. One lecture or recitation and five to eight laboratory hours per week. Prerequisite, Zoology 101-102 or Physiology 101-102 or an equivalent. Mr. Landacre.

The histology and early development of the frog.

Formerly Zoology 120.

For Advanced Undergraduates and Graduates

109. Comparative Neurology. Three to five credit hours. First semester. One lecture or recitation and five to eight laboratory hours per week. Prerequisite, Anatomy 101-102 or an equivalent. Mr. Landacre.

The origin and structure of the nervous system and sense organs of the lower vertebrates.

Formerly Zoology 133.

110. Comparative Neurology. Three to five credit hours. Second semester. One lecture or conference and five to eight

laboratory hours per week. Prerequisite, Anatomy 101-102 or an equivalent. Mr. Landacre.

The structure of the central nervous system and sense organs of the higher vertebrates including man.

Formerly Zoology 134.

111-112. Seminar. One credit hour. The year. Prerequisite, Anatomy 101-102 or an equivalent. Mr. Landacre.

A discussion of recent advances in vertebrate anatomy, embryology, cytology and neurology based on recent literature. The second semester includes, in addition, reports on original work done in the department.

Formerly Zoology 143-144.

113-114. Cytology. Three to five credit hours. The year. One lecture or conference and five to eight laboratory hours per week. Prerequisite, Anatomy 101-102 or an equivalent. Mr. Landacre.

The cell as an organism and as a basis for development and inheritance.

Formerly Zoology 135-136.

For graduate courses in this department see the Bulletin of the Graduate School.

ANCIENT ART

See Greek Language and Literature

ASTRONOMY

Office, Emerson McMillin Observatory

PROFESSOR LORD, ASSOCIATE PROFESSOR MANSON

101-102. General Astronomy. Three credit hours. The year. Mr. Manson.

For Advanced Undergraduates and Graduates

105-104. Astronomy, Geodesy, and Least Squares. Three credit hours. The year. Mr. Lord, Mr. Manson.

107-108. Advanced Astronomy. Three to five credit hours. The year. Prerequisite, the calculus. Mr. Lord, Mr. Manson.

109-110. The Theory of Lenses. Four credit hours. The year. Prerequisite, the calculus. Mr. Lord.

The course in applied optics, beginning with the Gaussian

theory of lenses and followed by a complete discussion to terms of the second order of spherical aberration, eccentric oblique refraction, coma (Von Seidel's second condition), distortion, and achromatism. Supplemented with laboratory practice in the design and construction of simple photographic lenses.

BACTERIOLOGY

Office, 202 Veterinary Laboratory Building

PROFESSOR MORREY, ASSISTANT PROFESSOR STARIN, MR. FRONING, AND LABORATORY ASSISTANTS

For Advanced Undergraduates and Graduates

These courses in Bacteriology are open to advanced undergraduates and graduate students only, not to Freshmen or Sophomores. The instructor in charge must be consulted before electing.

107. General Bacteriology. Four or five credit hours. First semester. Mr. Morrey, Mr. Froning, Miss McCoy, and laboratory assistants.

108. Pathogenic Bacteria. Two to five credit hours. Second semester. Prerequisite, Bacteriology 107. Mr. Morrey, Mr. Froning, Miss McCoy.

114. Water Examination, Sewage Disposal, Water Filtration. Two to five credit hours. Second semester. Prerequisite, Bacteriology, 107. Mr. Morrey, Miss McCoy.

116. Bacteriological Chemistry. Two to five credit hours. Second semester. Prerequisite, Bacteriology 107. Mr. Morrey.

117-118. Immunity and Serum Therapy. Two to five credit hours. The year. Prerequisites, Bacteriology 107 and 108 or equivalents. Mr. Starin.

Preparation of toxins, antitoxins, and vaccines and immune serums.

119-120. Pathogenic Protozoa. Two to five credit hours. The year. Prerequisites, Bacteriology 107 and 108 or equivalents. Mr. Starin.

125-126. Special Problems in Bacteriology. Three to five credit hours. The year. Conferences, library and laboratory work. Prerequisite, one year's work in Bacteriology. Mr. Morrey, Mr. Starin.

For graduate courses in this department see the Bulletin of the Graduate School.

BIBLICAL LITERATURE, HISTORY AND EXEGESIS

Office, 103 Orton Hall

PROFESSOR BREYFOGLE

***101. Biblical Literature.** Three credit hours. First semester. Lectures, quiz, and reports. Miss Breyfogle.

A consideration of the literature, history, and religion of the Old Testament.

This is a general course touching upon the historical crises of the Old Testament, with an attempt to recreate the political, economic, and social conditions as a basis for the better understanding of the moral and religious teachings. A stereopticon will be used, showing the latest discoveries in Palestine, Egypt, and Assyria which bear upon our period.

***102. Historical Christianity in Outline.** Three credit hours. Second semester. Miss Breyfogle.

A consideration of Judaism, of the life, work, and teachings of the Founder of Christianity, and of Apostolic teaching.

This course is intended to give the student a systematic knowledge of the New Testament in its historical setting. It will consider the relation of Christianity to Hellenic Judaism, the teachings of Jesus as shown by a comparison of the gospels, and the expansion of Christianity throughout the world during the Apostolic times. Stereopticon views will be freely used and an endeavor made to familiarize the student with the text.

103-104. The History of Religion in Outline. Three credit hours. The year. Lectures, quiz, and reports. Miss Breyfogle.

A consideration of the great book religions of the world.

BIBLIOGRAPHY

Office, Library

MISS JONES, MR. REEDER

105-106. Bibliography for the Social Sciences. One credit hour. The year. Mr. Reeder.

In order to take this work any one of the courses in the

*Not given in 1915-1916.

Social Science group must have been completed, and an additional course in the group must be carried at the same time.

This course covers the use of library catalogs, magazine indexes, reference books, and national, state, and municipal documents, which form the basis of advanced work in courses given by the departments of American History, Economics, and Sociology, Political Science, and European History. Lectures and problems.

BOTANY

Office, 102 Botany and Zoology Building

PROFESSOR SCHAFFNER, ASSISTANT PROFESSORS GRIGGS, DETMERS, STOVER, AND DEPARTMENT ASSISTANTS

101-102. General Botany. Four credit hours. The year. Mr. Schaffner, Mr. Griggs, Miss Detmers, Mr. Stover. Text-books, Curtis's *Nature and Development of Plants* (3rd edition), Schaffner's *Laboratory Outlines for General Botany* (3rd edition).

A general survey of the plant kingdom by the comparative method of morphological types and life cycles. A general view of the morphology, evolution, and classification of plants from the lowest to the highest.

110. General Dendrology. Two credit hours. Second semester. Mr. Schaffner, Mr. Brown. Text-book, Schaffner's *Field Manual of Trees*.

A study of trees and shrubs with practice in the identification of woody plants, in both summer and winter condition. Students are required to prepare a dendrological herbarium.

113. Morphology of the Higher Fungi. Three credit hours. First semester. One lecture and two laboratory periods. Prerequisite, Botany 101-102. Mr. Stover.

A study of the forest fungous flora, both fleshy and woody forms, with special reference to edible and poisonous mushrooms and to the wood-destroying species.

116. Plant Pathology. Three credit hours. Second semester. Lecture and laboratory. Prerequisite, Botany 101-102 or equivalent. Mr. Stover. Text-book, Stevens and Hall's *Diseases of Economic Plants*.

The diseases of plants due to physical causes and animals are briefly considered, but the main part of the course is de-

voted to a study of the parasitic fungi most destructive to cultivated plants.

117-118. Forest Ecology. Four credit hours. The year. Lectures and laboratory. Prerequisite, Botany 101-102 or equivalent.

120. Field Botany. Three credit hours. Second semester. Prerequisite, Botany 101. Mr. Griggs.

Excursions are made to most of the interesting localities within reach of Columbus on Saturday. On Monday afternoon material collected in the field is determined.

***123-124. Advanced Morphology.** Three to five credit hours. The year. Prerequisite, Botany 101-102 or equivalent. Mr. Griggs.

This course is intended to complete the morphological training begun in the first year. It includes instruction in microtechnique. Whenever possible, this course should be accompanied by Botany 135-136.

125-126. Plant Physiology. Four credit hours. The year. Lectures and laboratory. Prerequisite, Botany 101-102 or equivalent.

An experimental study of the soil, air, and biotic relations of plants, with training and instruction in such phases of nutrition, growth, movement, and the tropisms of plants as have a practical bearing in agriculture, forestry, and general biology.

143-144. Plant Distribution. Three credit hours. The year. Prerequisite, Botany 101-102. Mr. Griggs. Given biennially, alternating with Botany 123-124.

The principal vegetational areas of the earth with the characteristic plants of each, giving especial attention to the Biogeographic areas of North America.

For Advanced Undergraduates and Graduates

121. Plant Genetics. Three credit hours. First semester. One lecture, one laboratory period, and practicum. Prerequisite, Botany 101-102 and one additional year of some biological subject. Mr. Schaffner.

In this course the foundation principles of plant genetics are considered, including a study of fertilization and reduction, hybridization, heredity, Mendelian laws, fluctuations, and muta-

*Given biennially. (Not offered in 1915-1916.)

tions, together with practical methods of procedure in crossing both lower and higher plants. Emphasis is placed on heredity in wheat and corn.

Students electing this course should also take Zoology 129.

127-128. General Plant Pathology. Four credit hours. The year. Laboratory and field work. Prerequisite, Botany 101-102 or equivalent. Mr. Griggs. Stevens' Fungi, and Stevens and Hall's Diseases of Plants.

129-130. Systematic Botany. Three to five credit hours. The year. Prerequisite, Botany 101-102 or equivalent. Mr. Schaffner.

The organography of the flowering plants from the standpoint of evolution, including a special consideration of phyletic series, probable relationships, the significance of vestiges, specializations and adaptations, and the development of a correct taxonomy.

131-132. Cytology and Microtechnique. Three to five credit hours. The year. Prerequisite, Botany 123-124 or equivalent. Mr. Schaffner.

133-134. Minor Investigations. Three to five credit hours. The year. Prerequisite, Botany 101-102 or equivalent. Mr. Schaffner, Mr. Griggs, Mr. Stover.

135-136. Evolution of Plants. One credit hour. The year. Prerequisite, Botany 101-102 and one additional year of some biological subject. Mr. Schaffner.

A presentation of the progress of evolution in the plant kingdom, with a general discussion of the problems and factors involved, including both the scientific and philosophical aspects of the subject.

137-138. Seminar in Botany. One credit hour. The year. Prerequisite, two years' work in botany. Mr. Schaffner.

This course should be elected only in connection with other advanced courses.

139-140. Advanced Mycology. Three to five credit hours. The year. Prerequisite, Botany 127-128 or equivalent. Mr. Griggs, Mr. Stover.

For graduate courses in this department see the Bulletin of the Graduate School.

CHEMISTRY

Office, 100 Chemistry Hall

PROFESSOR McPHERSON, EMERITUS PROFESSOR NORTON, PROFESSORS HENDERSON, FOULK, EVANS, WITHROW, ASSISTANT PROFESSORS BOORD, SHIPLEY, MR. HUMMELL, AND DEPARTMENT ASSISTANTS.

105. Elementary Chemistry. Four credit hours. Either semester. Mr. Evans, Mr. Hummel, Mr. McNeil, Mr. Parkinson.

A general course on the chemistry of the non-metals, arranged for students who have not presented chemistry as an entrance requirement. Students taking this course will follow with Chemistry 106, second semester.

106. Elementary Chemistry and Qualitative Analysis. Four credit hours. Second semester. Prerequisite, Chemistry 105. Mr. Evans, Mr. Hummel, Mr. McNeil, Mr. Parkinson.

A general course on the chemistry of the metals. The laboratory work accompanying is a general introductory course in qualitative analysis.

109. General Chemistry. Four credit hours. Either semester. Mr. Evans, Mr. Hummel, Mr. Schmidt, Mr. McCrosky, Mr. Day.

A general course on the chemistry of non-metals. It is more advanced than Chemistry 105 and is arranged for students who have had an acceptable course in elementary chemistry in a secondary school. Students taking this course will follow with Chemistry 110, second semester.

110. General Chemistry and Qualitative Analysis. Four credit hours. Second semester. Prerequisite, Chemistry 109. Mr. Evans, Mr. Hummel, Mr. Schmidt, Mr. McCrosky, Mr. Day.

A general course on the chemistry of the non-metals. It is more advanced than Chemistry 106. The laboratory work is a general course in qualitative analysis.

113-114. Advanced General Chemistry. Two credit hours. The year. Prerequisite, Chemistry 106 or 110. Mr. Henderson.

A course of fundamental topics in the field of advanced general chemistry.

117. Qualitative Analysis. Three credit hours. First semester. One lecture and six laboratory hours per week. Prerequisite, an acceptable course in general chemistry. Mr. Shipley.

This is an elementary course in qualitative analysis. Similar to Chemistry 106 and 110 and is arranged for students with advanced standing who have had no qualitative analysis.

119-120. Quantitative Analysis. Four credit hours. The year. One lecture, nine laboratory hours per week. Laboratory open forenoons and afternoons. Prerequisite, Chemistry 106 or 110 or equivalent. Mr. Foulk, Mr. Shipley, Mr. Hollingsworth.

Elementary principles of gravimetric and volumetric analysis, with typical analytical methods. This course must be accompanied by Chemistry 124, except by special permission of the instructor. It is also desirable that it be accompanied by Chemistry 113-114.

124. Chemical Problems. One credit hour. Second semester. Mr. Foulk.

Extended practice in the solution of problems pertaining to gravimetric and volumetric analysis. This course is arranged to accompany Chemistry 119-120.

136. The Reading of Chemical Literature. Two credit hours. Second semester. Prerequisite, one year of German. Mr. Foulk.

The object of this course is to afford practice in the rapid reading of German chemical literature, the selections being made with special reference to the technical terms of the science.

151-152. Organic Chemistry. Two credit hours. The year. Prerequisite, Chemistry 109, 110; 113-114 and 119-120, except by special permission of the instructor. Mr. McPherson.

Lectures in organic chemistry.

153-154. Organic Chemistry. Two or three credit hours. The year. Six or nine laboratory hours. Laboratory open afternoons. This course must be accompanied or preceded by Chemistry 151-152. Mr. McPherson, Mr. Boord.

The preparation of typical organic compounds.

187. Inorganic Preparations. Two or three credit hours. Either semester. Six to nine laboratory hours per week. Laboratory open afternoons. Prerequisite, Chemistry 113-114. Mr. Henderson, Mr. Dickson.

The preparation of a limited number of compounds chosen

so as to give practice in the different kinds of manipulation involved in the preparation of inorganic compounds.

For Advanced Undergraduates and Graduates

157-158. Physical Chemistry. Three credit hours. The year. Prerequisite, Chemistry 113-114, 119-120, and 151-152, except by special permission of the instructor. Mr. Henderson.

This is a general course in physical chemistry.

161. Physical Chemistry. Two or three credit hours. Either semester. Six to nine laboratory hours per week. Prerequisite, or concurrent, Chemistry 157-158. Mr. Henderson.

An elementary course in physico-chemical measurements, including such topics as molecular weights and conductivity.

165. Quantitative Analysis. Two credit hours. First semester. Two recitations. Prerequisite, Chemistry 119-120 or equivalent. Mr. Foulk.

Advanced course. A general survey of the methods of quantitative analysis.

167. Special Methods of Analysis. Three to five credit hours. First semester. One lecture and six to twelve laboratory hours per week. Prerequisite, Chemistry 119-120. Mr. Shipley.

Selections may be made from gas analysis, and spectrum analysis.

168. Qualitative Analysis. Three to five credit hours. Second semester. One lecture, six to twelve laboratory hours per week. Prerequisite, Chemistry 119-120 or equivalent. Mr. Shipley.

Advanced course. Extended work in general qualitative analysis including the more important of the rarer elements.

169. Quantitative Analysis. Three to five credit hours. First semester. One conference and six to twelve laboratory hours per week. Prerequisite, Chemistry 119-120 or equivalent. Mr. Foulk.

Advanced course. A laboratory course in advanced quantitative analysis.

176. Sanitary Analysis. Three credit hours. Second semester. Two lectures and three laboratory hours per week.

Laboratory open forenoons and afternoons. Prerequisite, Chemistry 119-120 or equivalent. Mr. Foulk.

A study of the methods of sanitary water analysis and the interpretation of results.

177. Industrial Chemistry. Two credit hours. First semester. Two lectures. Prerequisite, Chemistry 113-114 and 153. Mr. Withrow.

A general course in the principles underlying the application of chemistry in the industries.

178. Industrial Chemistry. One credit hour. Second semester. One lecture. Mr. Withrow.

A continuation of Chemistry 177.

185. Industrial Chemistry. Two credit hours. First semester. One hour conference, and five laboratory hours per week. Prerequisite, Chemistry 119-120, and must be accompanied or preceded by Chemistry 177-178. Mr. Withrow.

Industrial chemical research.

186. Industrial Chemistry. Three credit hours. Second semester. One hour conference, and eight laboratory hours per week. A continuation of Chemistry 185. Mr. Withrow.

In the latter portion of the semester the study of methods for the analysis of industrial products is undertaken.

***192. Rare Elements.** Two credit hours. Second semester. Two lectures. Prerequisite, Chemistry 119-120 and 113-114. Given in 1914-1915 and biennially thereafter. Mr. Henderson.

A general course on the chemistry of the rare elements, including a discussion of their increasing economic importance.

194. Applied Electro Chemistry. Two credit hours. Second semester. Two lectures. Prerequisite, Chemistry 157-158, except by special permission of the instructor. Mr. Withrow.

A descriptive course covering the application of the electric current in the chemical industries.

***196. Inorganic Chemistry.** Two credit hours. Second semester. Two lectures. Prerequisite, Chemistry 157-158. Given in 1914-15 and biennially thereafter. Mr. Henderson.

A general discussion of some topic in the field of inorganic chemistry.

For graduate courses in this department see the Bulletin of the Graduate School.

*Not given in 1915-16.

COMPARATIVE LITERATURE AND LANGUAGE

PROFESSORS BOLLING, ELDEN, ASSISTANT PROFESSORS
LEWISOHN, PEIRCE, BARROWS.

191-192. Movement of European Literature. Two credit hours. The year. Lectures, readings, and reports. Mr. Lewisohn.

The fundamental ideas and tendencies that underlie the chief movements of European literature and are historically common to the various literatures of the West. The course is planned as a preparation for advanced and specialized study in individual literatures and literary periods.

193. History of the Drama from Classical Times to the Renaissance. Two credit hours. First semester. Lectures, with collateral readings and reports. Mr. Peirce.

Aeschylus, Sophocles, Euripides, Seneca. The popular drama of the Middle Ages; liturgical drama, mysteries, miracle plays, and moralities; shepherd plays; pastorals and fairs; farces and soties.

†194. History of the Drama from the Renaissance to the Eighteenth Century. Two credit hours. Second semester. Lectures, with collateral readings and reports. Mr. Peirce.

The Pre-Renaissance classical drama in Italy. The Renaissance drama; Carreto, Trissino, Jodelle, Garnier, Moutchretien, Hardy. The Seventeenth Century; Corneille, Racine, Moliere, Lope de Vega, Calderon, Tirso de Molian.

195. Principles of the Historical Study of Language. Two credit hours. First semester. No prerequisite. Mr. Bolling.

111-112. (Latin) Roman and Comparative Literature. One credit hour. The year. Mr. Elden.

Lectures and assigned readings on Roman literature and its influence on modern writers. Open and useful not only to students of Latin, but also to those without a knowledge of Latin, who desire to become acquainted with the broader outlines of Roman literature and its influence upon the literature of France, Germany and England. This course is given every year.

175. (German) Phonetics. Two credit hours. First semester. Miss Barrows.

†[NOTE—There is no foreign language prerequisite for these courses. Only such plays will be assigned for reading as are available in translation.]

Speech sounds, with special reference to German, French and English.

ECONOMICS AND SOCIOLOGY

Office, 102 Page Hall

PROFESSORS HAGERTY, HAMMOND, LOCKHART, HUNTINGTON, RUGGLES, ASSISTANT PROFESSORS WALRADT, PARRY, MISS RENZ, MR. DRURY, MR. BRUDER, MR. HARRIS, MR. WEIDLER, MR. WILKINSON, MISS MARK

ECONOMICS

131. Economics and Social History of England and the United States. Three credit hours. Either semester. Open only to first and second year students. Mr. Walradt, Mr. Drury.

133. Economic Geography. Three credit hours. Either semester. Open only to first and second year students. Mr. Weidler, Mr. Wilkinson.

The influences of geographic environment, with special reference to North America.

135-136. Principles of Economics. Three credit hours. The year. Not open to first year students. Should precede all courses in Economics, except 131 and 133. Concurrent 139. Mr. Hammond, Mr. Lockhart, Mr. Ruggles, Mr. Parry, Mr. Drury, Mr. Weidler, Mr. Wilkinson.

A study of the laws of production, exchange, distribution, and consumption of wealth, combined with an analysis of the industrial actions of men as regards land, labor, capital, money, credit, rent, interest, wages, etc. Text-book, lectures, and individual investigation.

Economics 136 is given also the first semester. Mr. Walradt.

Economics 135 is given also the second semester. Mr. Walradt.

139. Elements of Accounting. Three credit hours. First semester. Prerequisite, registration in Economics 135-136. Mr. Harris and assistant. This course should be followed by Economics 171.

An introduction to practical accounting, including the analysis and interpretation of business statements.

171. Principles of Accounting. Three credit hours. Second semester. Prerequisite, Economics 139. Mr. Harris.

The principles of modern accounting, including a study of some of its problems, especially those connected with the balance sheet and the income statement, as the valuation of assets, and the treatment of good will, depreciation, capital stock, profits, surplus, reserves, etc.

147-148. Financial History of the United States. Two credit hours. The year. Prerequisite, Economics 135-136. Mr. Walradt.

A study of the fiscal and monetary history of the country from colonial times to the present, with special reference to federal taxation, loans and financial administration, currency legislation, and the development of banking institutions.

149. Business Law. Three credit hours. Either semester. Prerequisite, Economics 135-136. Mr. Ruggles.

A study of the leading principles of interest to the business man to be found in the law of contracts, agency, partnerships, corporations, personal and real property, suretyship and guaranty, insurance, the estates of decedents, etc.

145-146. Senior Seminar in Economics. Two credit hours. The year. Mr. Ruggles.

A course of individual investigation and class discussion of practical economic problems. Recommended to students who have had at least two years' work in economics. Open to students who have obtained permission of the instructor.

For Advanced Undergraduates and Graduates

141. Public Finance. Two credit hours. First semester. Prerequisite, Economics 135-136. Mr. Lockhart.

Public expenditures; public revenues, with special reference to taxation; public credit; the budget; financial administration.

179. Crises and Panics. Two credit hours. First semester. Prerequisite, Economics 135-136. Preferably preceded or accompanied by Economics 153. Mr. Lockhart.

The history and causes of recurrent periods of business prosperity and depression; the problem of reducing their scope and frequency.

180. The Stock Exchange and Investments. Two credit hours. Second semester. Prerequisite, Economics 135-136. Preferably preceded or accompanied by Economics 154. Mr. Lockhart.

An examination of the process of speculation and investment on the organized security markets, the types of investment securities, and the criteria of a good investment.

144. Problems of Taxation. Two credit hours. Second Semester. Prerequisite, Economics 141. Mr. Lockhart.

A course dealing with questions of reform in taxation. The Ohio system of taxation will be given special consideration.

153. Money and Currency. Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Lockhart.

The relation of money to prices; the cost of living; monetary systems; the gold standard, bimetallism, the gold exchange standard; government and bank paper money; banking history and legislation; currency reform in the United States, with special reference to the prevention of financial panics, and the provision of adequate credit facilities for the farmers.

154. Banking and Foreign Exchange. Three credit hours. Second semester. Prerequisite, Economics 153. Mr. Lockhart.

The functions, internal organization and inter-relations of the various types of banking institutions, with special emphasis on the foreign exchange business.

***156. Municipal Economics.** Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Ruggles.

The growth of cities and its effects on their economic and social activities; private versus public ownership and operation of public utilities. City finances.

157. Life Insurance. Two credit hours. First semester. Prerequisite, Economics 135-136. Mr. Ruggles.

Principles of life insurance and its economics and social significance; kinds of companies, policies, methods of organization, operation and regulation. Health, accident, industrial, and old-age insurance.

158. Property Insurance. Two credit hours. Second semester. Prerequisite, Economics 135-136. Mr. Ruggles.

Fire, marine, liability, and miscellaneous insurance. Historical development and practice of various forms of property insurance. A careful study of each class of companies, their risks, policies, methods of operation, and regulation by state.

***159. The Geography and History of Commerce.** Three

*Not given in 1915-1916.

credit hours. Second semester. Prerequisite, Economics 135-136. Mr. Huntington.

A study of the basis and development of commerce in the chief commercial nations. Present and prospective leadership among commercial nations and the factors contributing to it. Regulation of commerce by the state and local governments.

160. Commercial Policies. Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Parry.

Theories of international trade, mercantilism, free-trade, and protection; a study of the tariff of the United States with a comparative study of those of the leading commercial nations. Balance of trade, domestic and foreign exchange.

***161. Mercantile Institutions in Domestic Trade.** Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Hagerty.

The evolution and organization of mercantile institutions. The methods of selling and distributing goods, including selling agencies, traveling salesmen, produce exchanges, commercial credit, mercantile agencies, etc.

162. Foreign Markets and the Consular System. Three credit hours. Second semester. Prerequisite, Economics 135-136. Mr. Parry.

The significance of exports and imports. The work of the state in furthering commerce. The contest for markets and the methods of securing them. An analysis of the commerce of the United States and the leading commercial nations.

163. Corporation Economics. Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Hammond.

The development of corporations. Corporate organization, management, and finance. Forms and methods of industrial consolidations. Monopolistic tendencies in industry. Public regulation of industrial monopolies.

164. Industrial Organization. Three credit hours. Second semester. Prerequisite, Economics 135-136. Mr. Hammond.

The development and internal organization of modern manufacturing enterprises. The forces determining their location. Factory administration. "Scientific Management." Welfare work. Lectures, reports, and visits of inspection to local plants.

*Not given in 1915-1916.

165. Labor Legislation. Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Hammond.

A study of the labor laws of the United States and the principal foreign countries with reference to their social and economic causes and effects.

166. Organization and Remuneration of Labor. Three credit hours. Second semester. Prerequisite, Economics 135-136. Mr. Hammond.

History of the labor movement. Trade union policies and methods. Employers' organizations. Collective bargaining. Industrial arbitration. Attempts to modify the wage system. Time, piece, and progressive wages. Profit sharing, labor co-partnership, and co-operation.

167. Railway Economics. Three credit hours. First semester. Prerequisite, Economics 135-136. Mr. Ruggles.

The development of the means of transportation. Railway growth and consolidation. Railway rate theories and practice. Railway commissions and public control. Government ownership of railroads.

168. Railway Organization and Administration. Three credit hours. Second semester. Prerequisite, Economics 135-136. Mr. Ruggles.

The organization of a modern railway system and the functions of the various departments. Rate-making and the work of the traffic department. The work of the industrial commissioner. Railway finance and statistics. The relation of the railroads to the accounting division of the Interstate Commerce Commission.

169. Advanced Economic Theory. Two credit hours. First semester. Prerequisite, Economics 135-136 and permission of the instructor. Mr. Parry.

The practical aim of economic science, pure and applied; brief review of elementary principles; general theory of markets, competitive and monopolized; the determination of market price and normal price; the composition and determination of costs; enterprise and profit. Applications of theory are limited to those which illustrate the principles. Lectures, assigned readings, discussions and papers.

170. Unsettled Questions of Economic Theory. Two credit

hours. Second semester. Prerequisite, Economics 135-136 and permission of the instructor. Mr. Parry.

The scale of enterprise; the principle of substitution; the law of profitable proportions; the rent of land; capital, capitalization, interest and discount; the social dividend and the individual income; the social control of the market; distributive justice. Applications of theory are mainly limited to those which define the problem and illustrate the principles. Lectures, assigned readings, discussions and papers.

***172. Cost Accounting.** Three credit hours. Second semester. Prerequisite, Economics 171 or 173. Mr. Huntington.

The purpose of cost accounting, the relation of the various elements of cost, and the methods of recording them in various types of industries.

173. Accounting Practice. Three credit hours. First semester. Prerequisite, Economics 139-171. Mr. Harris.

The application of accounting principles. The working out of practical problems in accounting and the analyzing of reports of industrial, financial, and railway corporations.

174. Auditing. Three credit hours. Second semester. Prerequisite, Economics 171 or 173. Mr. Harris.

The duties and responsibilities of an auditor or certified public accountant, the various kinds of audits and their value, the nature and value of the auditor's report. The working out of auditing problems, and the preparation of audit reports.

175. Principles of Advertising. Three credit hours. Second semester. Prerequisite, Economics 135-136 Mr. Ruggles, Mr. Drury.

A study of advertising, its laws, its economic importance, advertising costs, methods of advertising, and follow-up systems; the work of the general advertiser, the advertising manager, and the general advertising agency.

177-178 Economic Statistics. Two credit hours. The year. Prerequisite, Economics 135-136. Miss Mark.

A study of methods of constructing, arranging, and interpreting statistical data. The making of schedules; the construction and tabulation of data; averages; the use of diagrams and curves; correlation, interpolation, probable errors, accuracy. This course will deal largely with statistics of

*Not given in 1915-1916.

wages, prices, accidents, cost of living, non-employment, production, transportation, finance, etc.

181-182. Economic History of the United States. Three credit hours. The year. Prerequisite 135-136. Mr. Walradt.

The development of agriculture, trade, and manufactures from the comparatively simple system of colonial days to the complex economic organization of the present.

The course endeavors to point out the inter-relation which exists between this development and the various economic and social problems which have risen.

SOCIOLOGY

101-102. Principles of Sociology. Three credit hours. The year. Mr. Hagerty, Miss Renz, Mr. Bruder, Miss Mark.

Not open to first-year students.

A study of the fundamental principles of Sociology. Text-book, lectures, collateral reading, and individual investigation. Sociology 101 is given also the second semester.

107. The Family. Three credit hours. First semester. Prerequisite or concurrent, Sociology 101-102. Miss Renz.

A study of the matrimonial institutions and family organization in primitive society. The evolution of marriage and the family through Greek, Roman, and Medieval periods. The modern family, its functions and its problems.

123. Anthropology. Three credit hours. First semester. Mr. Bruder.

An elementary study of the essential characteristics of mankind and of the distinguishing traits of the several races of men; the origin and development of various races. Anthropological problems. Text-book, lectures, discussions, and readings.

124. Ethnology. Three credit hours. Second semester. Prerequisite, Sociology 123. Mr. Bruder.

A genetic study of the social, occupational, and mental life of the several races of men. The origin and development of the various institutions and activities which have had their beginning in primitive society. Ethnological problems. Text-book, lectures, discussions, and readings.

127. History and Theory of Leisure. Three credit hours. First semester. Prerequisite or concurrent, Sociology 101.

The source of leisure. Leisure and slavery. Historical development of leisure classes. Their characteristics. The play of primitive times, of Greece and Rome, of the Middle Ages. Leisure and progress. The importance of play in the upbuilding of society.

128. Play and Recreation. Three credit hours. Second semester. Prerequisite, Sociology 127. The recreation and playground movement of Europe and America. Settlement and schoolhouses as social centers. Voluntary and public systems of organization and administration. The social bases of wise recreational efforts. The direction of leisure time as a factor in the solution of specific social problems. The necessity of sociological training for the recreation director.

For Advanced Undergraduates and Graduates

103. The Indian. Three credit hours. First semester. Prerequisite, Sociology 101-102. Mr. Bruder.

A study of primitive man. Readings from reports of the United States Bureau of Ethnology and other sources. A study of the modern Indian problem.

***104. The Immigrant.** Three credit hours. Second semester. Prerequisite, Sociology 101-102. Mr. Bruder.

The causes and sources of migration, provisions for transportation, immigration laws, and the assimilation of nationalities.

***105. The Negro.** Three credit hours. First semester. Prerequisite, Sociology 101-102. Mr. Bruder.

A study of tropical man and the results of his transference to a temperate clime. Negro health, crime, education, and progress in the United States.

106. Tropical Races. Three credit hours. Second semester. Prerequisite, Sociology 101-102. Mr. Bruder.

The sociological bases of progress and development of colonial and other dependent peoples are sought in the geography, resources, ethnology, and administration of tropical peoples with a view to the training of students for efficient service in education, government, business, and missionary endeavor.

*Not given in 1915-1916.

Special attention will be paid to the Philippines and to the countries of Central and South America.

108. Primitive Man in Ohio. One credit hour. Second semester. Prerequisite, Sociology 101-102. Mr. Mills.

A study of the geological evidence of man's antiquity in Ohio. A detailed study of mounds, earthworks, and remains; environments and stages of culture; late discoveries in the mounds and village sites in Ohio. Illustrated by specimens from the Archaeological Museum.

***109. Modern Charity.** Three credit hours. First semester. Prerequisite, Sociology 101-102. Mr. Hagerty.

The treatment of dependent and defective classes. A history of poor relief in Great Britain and the United States. Outdoor and indoor relief, both public and private. Organized charity, the treatment of the vagrant, the care of dependent children, the insane, the feeble-minded, the epileptic, and the education of the blind and the deaf.

***110. Criminology.** Three credit hours. Second semester. Prerequisite, Sociology 101-102. Mr. Hagerty.

A study of crime and the social and physiological causes of crime. A historical study of prison systems and methods. The intermediate sentence, the probation, and the parole law. The juvenile court and its agencies to prevent crime.

111. Poverty. Three credit hours. First semester. Prerequisite, Sociology 101-102. Mr. Hagerty.

A study of the personal and social causes of poverty and dependency. Exploitation, maladjustment, housing conditions, tenement legislation, etc. The maintenance of a reputable standard of living.

112. Preventive Philanthropy. Three credit hours. Second semester. Prerequisite, Sociology 109 or 111. Mr. Hagerty.

A study of preventive institutions and methods for the promotion of thrift, and for sanitation and public health; parks, playgrounds; substitutes for the saloon; social settlements; child labor legislation; industrial education; building codes, etc.

113. Historical Socialism and Social Reform. Three credit hours. First semester. Prerequisite, Sociology 101-102, or Economics 135-136.

*Not given in 1915-1916.

History and theory of communism, socialism, and reform to the middle of the nineteenth century.

114. Recent Socialism and Social Reform. Three credit hours. Second semester. Prerequisite, Sociology 101-102, or Economics 135-136.

Marx and his contemporaries. Present movements in the United States and abroad. The social function of the church.

115-116. Field Work in Sociology. Two credit hours. The year. Open only to graduates and seniors who have had two years' work in Sociology. Mr. Hagerty.

A study of the work of charity organization, the juvenile court, or the social settlement, through practical experience in these organizations. This course involves the preparation of papers.

117-118. Seminar in Sociology. Two credit hours. The year. Open to graduates and advanced undergraduates. Mr. Hagerty.

120. The Household. Three credit hours. Second semester. Prerequisite or concurrent, Sociology 101-102. M'ss Renz.

The family as an economic institution. The evolution of household industries and its effect upon the home. Organization of the household with reference to the functions of man and woman.

***122. Social Statistics.** Two credit hours. Second semester. Prerequisite, Sociology 101-102, or Economics 135-136. Miss Mark.

Population and vital statistics, health statistics, and statistics involved in standards of living. Should be preceded by Economics 177-178.

125. Social Order and Social Control. Three credit hours. First semester. Prerequisite, Sociology 101-102. Miss Renz.

A study of the social activities and the social nature as the basis of social order and a consideration of the various agencies of social control,—custom, conventionality, social suggestion, the mob, public opinion, law, education, religion, art, ceremony, ideals, personality.

126. Social Progress. Three credit hours. Second semester. Prerequisite, Sociology 101-102. Miss Renz.

*Not given in 1915-1916.

A study of the different theories of social progress and of the forms that make for and against progressive civilization.

For graduate courses in this department see the Bulletin of the Graduate School.

ENGLISH

Office 103, Physics Building

PROFESSORS DENNEY, TAYLOR, McKNIGHT, GRAVES, ASSISTANT PROFESSORS COOPER, BECK, KETCHAM, MR. CRAIG, MR. DISHONG, MR. CONE. MISS WAKEFIELD

101. Paragraph Writing: Description and Narration. Two credit hours. Either semester. All instructors. Text: Scott and Denney's Paragraph Writing, and Duncan, Beck, and Graves' Specimens of Prose Composition.

English 101 is given also in the Summer Session.

104. Paragraph Writing: Exposition and Argumentation. Two credit hours. Either semester. Prerequisite, English 101. All instructors.

English 104 is given also in the Summer Session.

105. Descriptive and Narrative Writing. Two credit hours. First semester. Prerequisite, English 101, 104. Mr. Beck.

106. Expository Writing. Two credit hours. Second semester. Prerequisite, English 101, 104, 105. Mr. Beck.

107. Advanced Composition. Two credit hours. First semester. Prerequisite, English 101, 104. The number admitted to this course is limited to thirty. Special permission necessary. Mr. Graves.

108. Advanced Composition. Two credit hours. Second semester. Prerequisite, English 101, 104, 107. The number admitted to this course is limited to thirty. Special permission necessary. Mr. Graves.

111-112. Advanced Argumentation and Debate. Three credit hours. The year. Prerequisite, English 104. Mr. Ketcham.

121. Public Speaking. Two credit hours. First semester. Prerequisite, English 101, 104. Mr. Ketcham.

The principles of public speaking. The methods of securing the attention, and maintaining the interest of an audience. Practice in the application of principles and methods to simple expository and argumentative addresses.

122. Debating. Two credit hours. Second Semester. Prerequisite, English 101, 104. Mr. Ketcham.

Practice in making and presenting oral arguments. The theory and practice of argumentation and debate. Short class debates on subjects of current interest.

124. Extempore Speaking. Two credit hours. Second semester. Prerequisite, English 122. Mr. Ketcham.

Practice in gathering and arranging speech material for extemporaneous addresses. Special exercises for developing clearness, concreteness, connotation, unity, and movement in extemporaneous speaking.

125-126. The Forms of Public Address. Two credit hours. The year. Prerequisite, English 121, 122. Mr. Ketcham.

A study of the methods of the foremost American and English orators. Class discussions. Practice in the use of different forms of public address. Formal orations; inaugurals; nominating speeches; after dinner speaking; discussions of current events; political, business and social addresses.

127. History of the English Language. Two credit hours. First semester. No prerequisite course. Mr. McKnight.

Designed for students without a knowledge of Old and Middle English. The development of the language is traced by means of illustrative specimens. Attention is paid to the history of spelling and pronunciation, the changes in the meaning of words, and the origin of modern idioms.

128. English Words. Two credit hours. Second semester. No prerequisite course. Mr. McKnight.

Text-book: Greenough and Kittredge's Words and Their Ways in English Speech.

131. Survey of English Literature. Three credit hours. Either semester. No prerequisite course. Mr. Cooper, Mr. Beck.

Second semester. Mr. Taylor, Mr. Graves.

The outline of the history of English Literature will be given by lecture. The following will be read: Shakespeare's Richard III, Twelfth Night, Coriolanus; Milton's Paradise Lost, Book III, IV; Bunyan's Pilgrim's Progress, Pt. I; Dryden's Palamon and Arcite; Addison Essays; Pope's Rape of the Lock; Goldsmith's Essays; Scott's Kenilworth; Byron's Maze-

pa; Carlyle's Essay on Biography; Dickens' Martin Chuzzlewit; Stevenson's Virginibus Puerisque.

European History 103-104 (Narrative History) is recommended in connection with this course.

133. Survey of American Literature. Three credit hours. Either semester. No prerequisite course. Mr. Taylor, Mr. Graves.

Second semester. Mr. Cooper, Mr. Beck.

The outline of the history will be given by lecture. The reading and criticism will be of Irving, Cooper, Bryant, and Poe; of Hawthorne, Emerson, Whittier, Longfellow, and Lowell; and of Walt Whitman; with a brief survey of recent literature.

135. Literature in the Seventeenth Century. Two credit hours. First semester. Prerequisite, English 131. Mr. Cooper.

136. Poetry in the Eighteenth Century. Two credit hours. Second semester. Prerequisite, English 131. Mr. Cooper.

137. Eighteenth Century Essayists. Two credit hours. First semester. Prerequisite, English 131. Mr. Denney.

Reading in DeFoe, Swift, Addison, Steele, Pope, Goldsmith, Johnson, Chesterfield, Mackenzie, and Burke.

138. Nineteenth Century Essayists. Two credit hours. Second semester. Prerequisite, English 131. Mr. Denney.

Reading in Coleridge, Lamb, Landor, Hazlitt, DeQuincey, Carlyle, Ruskin, Arnold, Newman, Pater and Stevenson.

European History 102 is recommended to students taking this course.

141. Nineteenth Century Poetry. Three credit hours. First semester. Prerequisite, English 131. Mr. Taylor.

Wordsworth, Shelley, Keats, and their contemporaries.

142. Nineteenth Century Poetry. Three credit hours. Second semester. Mr. Taylor.

Reading and criticism as far as possible complete of Tennyson and Browning. Some initial consideration will be undertaken of Fitzgerald, Arnold, Swinburne, Rosetti, Morris, and Meredith.

For Advanced Undergraduates and Graduates.

151. Old English. Three credit hours. First semester. No prerequisite course. Mr. McKnight.

Old English prose and poetry as found in Bright's Anglo-Saxon Reader.

152. Old and Middle English. Three credit hours. Second semester. No prerequisite course. Mr. McKnight.

Beowulf, followed by selections illustrating the language and literature from the Norman Conquest to the time of Chaucer.

153. Chaucer and His Principal Contemporaries and Successors. Three credit hours. Second semester. Mr. McKnight.

Chaucer's principal works are read. Consideration is also given to Gower, Wycliffe, Langland, the author of Sir Gawayne and the Grene Knight, Occleve, Lydgate, Barbour, James I of Scotland, Dunbar, etc.

154. English Medieval Literature to Chaucer. Three credit hours. First semester. Mr. McKnight.

A study of epic poetry in early English, followed by a study of legends, romances, tales, and metrical histories, all done by means of modern English renderings.

155. The Novel. Richardson to Scott. Three credit hours. First semester. Prerequisite, fourteen hours in English. Mr. Taylor.

The history and development of the novel in this period is given by lecture. Reading and criticism of Richardson, Fielding, Sterne, Jane Austen, and Scott.

156. The Novel. Dickens to Meredith. Three credit hours. Second semester. Prerequisite, fourteen hours in English. Mr. Taylor.

The history and development of the novel in this period is given by lecture. Reading and criticism of Dickens, Thackeray, George Eliot, George Meredith, Hardy, and James.

157. Versification. Three credit hours. First semester. This course is limited to thirty members. Special permission necessary. The course should be preceded by English 135 and 136, or 139 and 140, or 141 and 142. Mr. Graves.

The theory of verse structure with a history of the principal English rhythms, and practice in verse composition.

158. The Short Story. Three credit hours. Second semester. Prerequisite, English 105 and 106, or 107 and 108. Mr. Graves.

Lectures on structure and form in the short story, with class reports on assigned readings, and practice in story writing.

This course is limited to thirty members. Special permission necessary.

165. Early Popular Drama. Three credit hours. First semester. Prerequisite, English 167, 168. Mr. McKnight.

Liturgical plays, mysteries, miracles, Robin Hood plays, St. George plays, moralities, interludes, and the earliest regular comedies and tragedies.

Manly's Specimens of Pre-Shakespearean Drama is made the basis of this course. Outside study in the complete collections is also prescribed.

166. The Drama from 1580 to 1642. Three credit hours. Second semester. Prerequisite, English 167, 168. Mr. McKnight.

One or two plays of each of the principal contemporaries and immediate successors of Shakespeare; lectures on the history of the drama in this period.

167. Shakespeare. Histories and Tragedies. Three credit hours. First semester. Prerequisite, fourteen hours in English. Mr. Denney.

168. Shakespeare. Comedies and Romances. Three credit hours. Second semester. Prerequisite, fourteen hours in English. Mr. Denney.

169. Modern English Drama, 1642-1800. Two credit hours. First semester. Prerequisite, English 167, 168. Mr. Cooper.

Representative plays of the principal dramatists are read; lectures on the history of the drama in this period. Among the authors studied are Dryden, Wycherly, Congreve, Farquhar, Van Brugh, Cibber, Goldsmith, and Sheridan.

170. Modern English Drama of the Nineteenth Century. Two credit hours. Second semester. Prerequisite, English 167, 168. Mr. Cooper.

The reading of representative plays, such as the plays of Robertson, Pinero, Gilbert, Wilde, Jones, Shaw, Barker, Harkin, and Synge, is accompanied by lectures on the history of the drama in the nineteenth century. Some attention is given to the work of American writers, Thomas, Moody, Mackaye, and Fitch.

For graduate courses in this department see the Bulletin of the Graduate School.

ENTOMOLOGY

See Zoology and Entomology

EUROPEAN HISTORY

Office 204, University Hall

PROFESSORS SIEBERT, McNEAL, PERKINS, MR. HARRIS

101. Medieval History. Three credit hours First semester. Mr. Siebert, Mr. McNeal, Mr. Perkins, Mr. Harris.

102. Modern History from 1500 A. D. Three credit hours. Second semester. Mr. Siebert, Mr. McNeal, Mr. Perkins, Mr. Harris.

103-104. History of England. Three credit hours. The year. No prerequisite for second, third, and fourth year students. Mr. Perkins, Mr. Harris.

A course intended for all students wishing to obtain a general survey of the subject, also for those specializing in English literature or American history, and for those preparing to teach history in secondary schools.

105. History of Greece. Three credit hours. First semester. No prerequisite for second, third, and fourth year students. Mr. McNeal.

106. History of Rome. Three credit hours. Second semester. No prerequisite for second, third, and fourth year students. Mr. McNeal.

119-120. History of Germany. Two credit hours. The year. No prerequisite for second, third, and fourth year students. Mr. McNeal.

The history of Germany since 1648, with especial emphasis on the rise of Prussia, and Germany in the 19th century.

***121-122. History of France.** Two credit hours. The year. No prerequisite for second, third, and fourth year students. Mr. McNeal.

The history of France from the accession of Louis XIV, with especial emphasis on the French Revolution, Napoleon, and France in the 19th century.

127-128. Medieval and Modern European History. Three credit hours. The year. Not open to students who have had

*Not given in 1915-1916.

European History 101 and 102. Not open to first and second year students.

This course is intended primarily for teachers, but is not a course in the teaching of European History.

For Advanced Undergraduates and Graduates

107-108. Medieval Civilization. Two credit hours. The year. Prerequisite, European History 101 and 102. Mr. McNeal.

Advanced students from other departments admitted without the prerequisite on consent of the instructor.

The first semester deals with the culture produced by feudal society; the second semester, with the culture produced by the church.

109. The Age of the Renaissance, 1250 to 1500 A. D. Two credit hours. First semester. Prerequisite, European History 101 and 102. Mr. Siebert.

This course traces the rise of our modern civilization, treating of the revival of letters and art, the spread of education, the early developments of modern science, the geographical discoveries, and the political, social, and ecclesiastical changes which occurred during the same period.

110. The Period of the Reformation. Two credit hours. Second semester. Prerequisite, European History 101 and 102. Mr. Siebert.

Reformational movements from the death of Dante (1321) to the end of the Council of Trent (1563).

123-124. Europe from 1815 to 1915. Three credit hours. The year. Prerequisite, European History 101 and 102. Mr. Perkins.

The history of central and western Europe from the close of the French Revolution to the present time, with especial emphasis on the past fifty years, and the interpretation of recent events in Europe.

113-114. Constitutional History of England. Three credit hours. The year. Prerequisite, European History 101 and 102. Mr. Siebert.

Intended for students especially interested in the institutional side of English and American History and in Political Science, and for those taking the Arts-Law course, or expecting to enter the College of Law.

115. Europe and Africa, India and Australia. Two credit

hours. First semester. Prerequisite, European History 101 and 102. Mr. Siebert.

A study of the colonial enterprises of the European states in the countries named, beginning with the age of geographical discoveries and tracing the narrative to the present time.

116. Europe and Turkey. The Eastern Question. Two credit hours. Second semester. Prerequisite, European History 101 and 102. Mr. Siebert.

This course treats of the relations of European powers with Turkey and Russia. European History 123 and 124 gives a special preparation for this course.

***117. Northeastern Europe.** Two credit hours. First semester. Prerequisite, European History 101 and 102. Mr. Siebert.

This course deals with Denmark, Sweden, Poland, and Russia from the fifteenth century.

***118. Europe and Asia. The Far Eastern Question.** Two credit hours. Second semester. Prerequisite, European History 101 and 102. Mr. Siebert.

Origin and development of the interests of the various European states in the Far East.

125-126. History of the Church in Western Europe. Three credit hours. The year. Prerequisite, European History 101 and 102. Mr. Harris.

Advanced students from other departments admitted without the prerequisite.

For graduate courses in this department see the Bulletin of the Graduate School.

FRENCH

See Romance Languages

GEOLOGY

Office 104, Orton Hall

PROFESSORS PROSSER, BOWNOCKER, ASSISTANT PROFESSOR HILLS, MR. VERWIEBE, MISS MARK

101-102. Physiography. Three credit hours. The year.

*Not given in 1915-1916.

Open to freshmen and sophomores only. Mr. Bownocker, Mr. Hills, Miss Mark.

Three field trips are made Saturdays in each semester, each trip taking the place of a recitation. During January, February, and March, the Monday recitation is replaced by laboratory work.

Physiographic features on the earth's surface; the ocean, and the atmosphere. Recitations, lectures, and assigned readings, illustrated with models and lantern views.

103. Inorganic Geology. Three credit hours. First semester. Mr. Bownocker.

Introductory course. Petrographical, structural, and dynamical geology. Study of common minerals and rocks and geological maps. The course is illustrated with lantern views, models, and museum materials.

104. Historical Geology. Three credit hours. Second semester. Prerequisite, Geology 101 or 103. Mr. Prosser.

A general course in paleontological and stratigraphical geology, illustrated by lantern views, maps, and specimens. The development of organisms and the classification and distribution of the geological formations, especially those of Ohio, are considered. After the first of April, some of the Friday lectures will be replaced by field trips on Saturdays.

Geology 101 or 103, and 104 are considered prerequisites for advanced work in physiography, historical or inorganic geology.

166. Petrography. Two credit hours. Second semester. Prerequisite, Geology 103 and Chemistry. Mr. Bownocker.

A study of hand specimens of igneous, metamorphic, and sedimentary rocks. More than one-half of the time will be devoted to laboratory work.

For Advanced Undergraduates and Graduates

105. Field Geology. Three to five credit hours. First semester. Prerequisite, Geology 101 or 103, and 104. Mr. Prosser.

Lectures, assigned readings, field trips, and laboratory work. Field trips generally on Saturdays while weather permits, laboratory work for the remainder of the semester.

Study of the geological formations readily accessible from Columbus, and identification of fossils characteristic of different formations. This course is intended to acquaint the stu-

dent with the ordinary methods of field investigation, and involves the collection and identification of specimens, the measurement of geological sections, and the preparation of a report describing the region studied. Occasionally longer geological excursions will be arranged.

106. Glacial Geology. Three credit hours. Second semester. Prerequisite, Geology 101 or 103, and 104. Mr. Bownocker.

A study of the glacial geology of North America. The first half of the semester will be given to lectures, assigned readings, and map work. The second half largely to field work and the preparation of reports, the field work being on Saturdays.

107-108. Invertebrate Paleontology. Two to five credit hours. The year. Prerequisite, Geology 101 or 103, and 104. Mr. Prosser, Miss Mark.

Careful training in systematic classification which may be used in the philosophical study of the development of plant and animal life, or as a means of becoming acquainted with the fauna and flora that characterize the various geological formations. At first the student devotes some time to conchology, studying recent shells in which the characters used in classification are well preserved, and after this preliminary work, fossils are studied. Fossils afford the most reliable data for identifying and correlating geological formations, and the critical study of faunas is a field especially adapted to independent research. Laboratory, museum, and field work.

111. Physiography of Central Ohio. Three credit hours. First semester. Prerequisite, Geology 101-102, and 103-104 or 103-104 concurrent. Mr. Hills.

Field and laboratory course. Three field trips per week while weather permits; assigned reading and written reports during the winter.

113-114. Areal Geology. Two to five credit hours. The year. Prerequisite, Geology 101 or 103, and 104; 105-106, and 107-108 for Paleozoic group, and 101 or 103, and 104, and 105-106 for Cenozoic group. Mr. Prosser, Mr. Hills.

Field work fall and spring, laboratory work in winter. Laboratory open afternoons.

Instruction in the methods of preparing geological maps, and reports for both the Paleozoic and Cenozoic groups. Outcrops are traced in the field and a colored geological map

is prepared, together with sections showing the geological structure.

115. Economic Resources of the United States. One credit hour. First semester. Must be taken in conjunction with Geology 167. Prerequisite, Geology 101-102 or 103-104, and Economics 135-136. Mr. Bownocker.

116. Physiographic Geology. Three credit hours. Second semester. Prerequisite, Geology 101-102 and 103-104. Mr. Hills.

Intensive study of physiographic principles, processes, and agents, with an application to certain type regions of the United States. Occasional field trips.

141-142. Minor Investigations and Current Literature. Two to five credit hours. The year. A study of special topics and current literature in geology. Assigned readings, conferences, and reports. **(a) Historical Geology.** Prerequisite, Geology 101 or 103, and 104 required. Mr. Prosser. **(b) Inorganic Geology.** Prerequisite, Geology 167. Mr. Bownocker. **(c) Physiography.** Prerequisite, Geology 101 or 103, and 104. Mr. Hills.

167. Economic Geology. Three credit hours. First semester. Prerequisite, Geology 103 and 104. Mr. Bownocker.

The nature of ores, their classification and origin. The metallic ores of the United States, their distribution, abundance, modes of occurrence, and origin. The non-metals, coal, oil, gas, clay, lime, cement, building stones, etc. In the discussion of the non-metals, emphasis will be laid on the products of Ohio.

For graduate courses in this department see the Bulletin of the Graduate School.

GERMAN

Office, 317, 318, University Hall

PROFESSORS EVANS, EISENLOHR, ASSISTANT PROFESSORS
THOMAS, BARROWS, LEWISOHN, BUSEY, DR. KEIDEL,
MR. KOTZ, DR. NORDMEYER

The courses in German, beyond those of the first two years, are divided into three groups: literary, linguistic and practice courses. The linguistic and practice courses are intended primarily for students who desire to make direct professional use of the language. A student beginning German at the university is advised not to take the subject as a major study. Students

who enter with two years of German and who desire to major in German the following outline course is recommended:

First year: 103-104.

Second year. 115-116 and 131-132 or 133-134.

Third year: 117-118 or 119-120, 175, and one literary course in the groups Advanced Undergraduates and Graduates.

Fourth year: at least one literary course in the group Advanced Undergraduates and Graduates, 171-172, 173 (see Bulletin of College of Education), 177-178.

101-102. Elementary German. Four credit hours. The year. All instructors.

German 102 is given also the first semester. German 101 is given also the second semester.

103. Intermediate German. Four credit hours. First semester. Prerequisite, German 101-102, or two entrance units. Not open to students who enter with four entrance units in German. All instructors.

Reading of narrative prose and a classical drama, supplemented by discussion of syntax; prose composition.

German 103 is given also the second semester.

104. Easy Classical Reading and Composition. Four credit hours. Second semester. Prerequisite, German 103, or three entrance units in German. Not open to students who enter with four entrance units in German.

Reading of (a) a classical drama supplemented by discussion, and lectures on the structure of the drama, its characters, and its historical background; (b) other literature of the classical period, or of the nineteenth century; prose composition.

German 104 is given also the first semester.

106. Science Reading. Four credit hours. Second semester. Prerequisite, German 103, or three entrance units in German.

Rapid reading of technical literature. This is preceded or accompanied by drill on word formation, word compounds, sentence structures. The object of the course is to enable the student to read German technical literature.

107-108. Advanced German. Four credit hours. The year. Modern and classical prose and verse. Oral and written practice. Open only to freshmen with four entrance units in German. Mr. Busey.

115-116. Classical and Modern Writers. Two credit hours. The year. Selections from the eighteenth and nineteenth century writers; written and oral exercises. To be conducted in German. Miss Barrows, Mr. Keidel.

117-118. Schiller. Introduction to Life and Works. Two credit hours. First semester. Gedichte, Don Carlos, Braut von Messina. Second semester: Wallenstein, Dreissigjahriger Krieg. Miss Thomas.

119-120. Nineteenth Century Drama. Two credit hours. The year. Selected dramas read and interpreted in class. The interpretation will take the form of simple lectures in German to be reproduced orally and in writing by the student. First semester: Selections from Kleist, Grillparzer, Hebbel, Ludwig. Second semester: Selections from Wildenbruch, Sudermann, Hauptmann, Fulda. Mr. Lewisohn, Mr. Keidel.

131-132. Conversation and Prose Composition. Two credit hours. The year. Prerequisite, consent of the instructor. Mr. Eisenlohr, Mr. Busey, Mr. Kotz.

133-134. Conversation. Two credit hours. The class will meet four times a week. Little outside preparation required. Mr. Keidel.

German 115 to 134, not open to Freshmen, require as prerequisite German 104 or its equivalent. German 115-116, offering a considerable amount of intensive oral and written work, is especially recommended for students desiring to take German as a major subject. German 117 to 124 are primarily reading courses. **No student may elect more than two-year courses in the group 107 to 124.** A combination of German 131-132 or 133-134 with German 115 to 124 is advised.

For Advanced Undergraduates and Graduates

Prerequisite: At least one year course in the group 107 to 124 or the equivalent.

The attention of advanced students is called to the History of Germany (Course 119-120) offered by the Department of European History.

151-152. Goethe. Introduction to Life and Works. Three credit hours. The year. Mr. Evans.

First semester: Selections from lyrics, earlier dramas, and prose. Second semester: Faust.

***153-154. Survey of German Literature.** Three credit hours. The year. Mr. Evans.

Lectures, interpretation of selected texts, and parallel readings. First semester: From the beginnings to Lessing. Second semester: Classical period and nineteenth century.

***155-156. Lessing. Introduction to Life and Works.** Two credit hours. The year. Mr. Eisenlohr.

First semester: Dramas. Second semester: Critical writings. To be conducted in German.

157. Volkslied. Two credit hours. First semester. Mr. Eisenlohr.

Studies in the origin and growth of the German Folksong with special reference to German life and culture. To be conducted in German.

158. Volksbuecher, Maerchen, und Sagen. Two credit hours. Second semester. Mr. Eisenlohr.

Studies in popular and legendary literature. To be conducted in German.

***159. Heine. Introduction to Life and Works.** Two credit hours. First semester. Miss Barrows.

***160. Hebbel. Introduction to Life and Works.** Two credit hours. Second semester. Miss Barrows.

161-162. Romantic Writers. Two credit hours. The year. Miss Thomas.

Lectures on the Romantic Movement with the reading of representative texts. First semester: Selections from Novalis, Tieck, Arnim. Second semester: Selections from Eichendorff, Uhland, Hoffmann.

163-164. Nineteenth Century Lyric. Two credit hours. The year. Mr. Lewisohn.

The form and content of German lyric poetry will be studied through intensive analysis of lyrics selected from the works of Goethe, Heine, and the Romanticists, Lenau, Moericke, Geibel, Meyer, Storm, and Liliencron.

171-172. Advanced Prose Composition. Two credit hours. The year. Open only on consent of instructor. Mr. Eisenlohr.

174. Grammar Review. Two credit hours. Second semester. Mr. Evans.

A detailed discussion of theoretical grammar from the

*Not given in 1915-1916.

standpoint of the high school teacher. Open only to seniors and graduate students.

175. Phonetics. Two credit hours. First semester. Miss Barrows.

A study of speech sounds with special reference to German, French and English.

176. Interpretative Reading. Two credit hours. Second semester. Miss Barrows.

Practice in reading narrative and dramatic prose and verse with the memorizing of certain selections. Not open to graduate students for credit.

177. Middle High German. Two credit hours. First semester. Mr. Busey.

Introductory course. Grammar and selected readings.

178. History of the German Language. Two credit hours. Second semester. Mr. Busey.

Lectures and illustrative readings, with special reference to the needs of those intending to teach.

For graduate courses in this department see the Bulletin of the Graduate School.

GREEK LANGUAGE AND LITERATURE

Office, 307 University Hall

PROFESSOR BOLLING

101-102. Elementary Greek. Four credit hours. The year.

105. Xenophon and Herodotus. Four credit hours. First semester. Prerequisite, Greek 101-102.

The Memorabilia of Socrates; exercises in Greek prose. Herodotus: selections; with studies in Greek History.

106. Herodotus and Homer. Four credit hours.. Second semester. Prerequisite, Greek 105.

Herodotus continued. Homer: Iliad, selections.

107. Lysias and Plato. Three credit hours. First semester. Prerequisite, Greek 105, 106.

Eight orations; with studies in Attic Procedure. Plato: Apology of Socrates and Crito.

108. Plato and Euripides. Three credit hours. Second semester. Prerequisite, Greek 105, 107.

Crito and Phaedo. Euripides, one play.

115-116. Greek Art. Two credit hours. The year.

Lectures on architecture, sculpture, and vases, and on Pre-Hellenic Antiquities. No prerequisites.

123-124. Life and Literature of the Greeks. Two credit hours. The year. No prerequisites.

Lectures on private life; on epic, lyric, and dramatic poetry; on the historians, the philosophers, and the orators.

For Advanced Undergraduates and Graduates

109. Thucydides and Demosthenes. Two credit hours. First semester. Prerequisite, Greek 105, 106.

Book I or Book VII. Demosthenes: Olynthiacs.

110. Demosthenes and Theocritus. Two credit hours. Second semester. Prerequisite, Greek 105, 108.

Phillippics. Theocritus: Selections.

111. Attic Drama. Two credit hours. First semester. Prerequisite, Greek 105, 108.

Euripides: Alcestis. Sophocles: Oedipus Tyrannus; with lectures on Scenic Antiquities.

112. Attic Drama. Two credit hours. Second semester. Prerequisite, Greek 105, 108.

Continuation of Greek 111; two plays.

113. Epic Poetry. Two credit hours. First semester. Prerequisite, Greek 105, 108.

Selections. Aristophanes: The birds.

114. Aristophanes and Post-Classical Greek. Two credit hours. Second semester. Prerequisite, Greek 105, 108.

The clouds. Post-Classical Greek: Lucian.

119. Readings in Greek Philosophy. Two credit hours. First semester. Prerequisite, Greek 105, 108.

120. Studies in New Testament Greek. Two credit hours. Second semester. Prerequisite, Greek 105, 108.

121-122. Historical Greek Grammar. Two to four credit hours, according to the needs of the applicants. The year. This course does not pre-suppose any knowledge of Greek.

The development of the Greek language, especially in its relations to the other members of the Indo-European family.

Open to advanced undergraduates, and graduates pursuing languages as a major.

Greek 115-116, 121-122, 123-124, are planned to meet the needs of students who have no knowledge of Greek.

JOURNALISM

Office, 211 University Hall

PROFESSOR MYERS

101. News Collecting and News-writing. Three credit hours. First semester. One lecture and six laboratory hours per week. Mr. Myers.

Attention is given to vocabulary and style with exercise in the gathering and writing of news for publication in the University daily paper.

102. Newspaper Practice and Principles. Three credit hours.. Second semester. One lecture and six laboratory hours per week. Mr. Myers.

Continuation of Journalism 101. Practical work on the Lantern in connection with discussion of principles and theories.

105. Newspaper Practice. Three credit hours. First semester. One lecture and six laboratory hours per week. Mr. Myers.

An advanced course for students who have completed Journalism 101 and 102, or who have done equivalent work. Practice in copyreading, head line writing and making-up.

106. Newspaper Practice. Three credit hours. Second semester. Mr. Myers.

A continuation of Journalism 105. Various phases of newspaper-making are considered, including practice on the various desks, interviewing, news values, mechanical details and correlation of departments.

109. Newspaper Problems. Two credit hours. First semester. One lecture and one three-hour laboratory period on the Lantern. Mr. Myers.

110. Newspaper Problems. Two credit hours. Second semester. One lecture and one three-hour laboratory period on the Lantern. Mr. Myers.

This course is a continuation of Journalism 109.

Journalism 109 and 110 supplement 105 and 106, and consider various problems of editorial and business policy as far as they may be taken up on a campus newspaper and in class-room work. In these courses attention will be given to the ethics of journalism.

LATIN

Office, 307 University Hall

PROFESSORS DERBY, HODGMAN, ELDEN

147. Elementary Latin. Four credit hours. First semester. Grammar and exercises. This course is offered to students who have not studied Latin, but whose ability and definite purpose enable them to do in one year in college, the first two years of the usual course in preparatory Latin.

148. Elementary Latin. Four credit hours. Second semester. Prerequisite, Latin 147.

Caesar, four books, and exercises.

149. Cicero, Orations. Four credit hours. First semester. Prerequisite, Latin 147, 148, or their equivalent.

150. Virgil, Aeneid. Four credit hours. Second semester. Prerequisite, Latin 147 to 149, or their equivalent.

101. Cicero, Livy, Horace. Four credit hours. Either semester. Prerequisite, four units of preparatory Latin. Mr. Hodgman, Mr. Elden.

Cicero: De Senectute and De Amicitia; Livy; Horace: Odes.

102. Horace, Ovid, Livy, Sallust. Four credit hours. Second semester. Prerequisite, Latin 101. Mr. Hodgman, Mr. Elden.

Horace: Odes; or Ovid: Metamorphoses; Livy or Sallust, or Prose Composition.

103. Pliny or Cicero; Catullus or Tacitus. Three credit hours. First semester. Prerequisites, Latin 101 and 102. Mr. Hodgman, Mr. Elden.

Pliny or Cicero selected letters: Catullus or Tacitus.

104. Latin Comedy. Three credit hours. First semester. Prerequisite, Latin 103. Mr. Hodgman, Mr. Elden.

Plautus and Terence, three plays.

105. Roman Satire: Horace, Juvenal, or Persius. Two

credit hours. First semester. Prerequisite, Latin 101 to 104. Mr. Elden.

106. The Roman Novel. Two credit hours. Second semester. Prerequisite, Latin 101 to 104. Mr. Hodgman.

Petronius; Seneca: Selections.

Latin 105 and 106 are important for juniors and seniors.

***107-108. Roman Private Life.** One credit hour. The year. Prerequisite, Latin 101, 102. Mr. Derby.

111-112. Roman and Comparative Literature. One credit hour. The year. Mr. Elden.

Lectures and assigned reading on Roman Literature and its influence on modern writers. Open and useful not only to students of Latin, but also to those without a knowledge of Latin, who desire to become acquainted with the broader outlines of Roman Literature and its influence upon the literatures of France, Germany, and England.

127-128. Legal Latin. One or two credit hours. The year. Robinson's Selections from Roman Law.

This course is intended to serve as an introduction to the language and technical terms of Roman writers on law. It should be useful to students of law, history, and political science. Prerequisite, Latin 101-102.

For Advanced Undergraduates and Graduates

109-110. Roman Art and Archaeology. One or two credit hours. The year. Mr. Derby.

This course is open to undergraduates excepting Freshmen, and to graduates.

The development of the arts and crafts in early Italy, and especially of Roman architecture, sculpture, wall decoration, mosaic gems and pottery. Open not only to students of Latin, but also to other students who are interested in the subject.

113-114. Pro-Seminar. Three credit hours. The year. Mr. Elden. Prerequisite Latin 101 to 104.

115-116. Latin Prose Composition. Three credit hours. The year. Prerequisite, Latin 101-104. Mr. Hodgman.

*Not given in 1915-1916.

Latin 115-116 should ordinarily be preceded or accompanied by Latin 105-106, or 121-122.

Latin 113 and 116 are essential for those students who are preparing to teach Latin and may be important for graduate students.

119-120. Advanced Latin Composition. One or two credit hours. The year. Prerequisite, Latin 115-116. Mr. Hodgman. Translation of English narrative and study of Latin idioms.

121. Roman Prose Authors: Cicero, Seneca, Quintilian, Suetonius, or Tacitus. Two credit hours. First semester.

122. Roman Poets: Plautus, Terence, Lucretius, Vergil, Ovid, Lucan, Statius, Martial, or Silius Italicus. Two credit hours. Second semester.

Courses 121-122 are designed to give an opportunity to read a considerable portion of the author chosen, and are open to advanced students only. At the option of the instructor, the study of one author may be continued during the year, or other authors used in either semester, or the class may earn more credit by meeting oftener, up to a total of five hours. Mr. Derby, Mr. Hodgman, Mr. Elden.

123-124. Historical Latin Grammar. Sounds and inflections. One credit hour. The year. Prerequisite, Latin 101 to 104. Mr. Hodgman.

Pronunciation, ablaut, vowel and consonant changes—especially vowel weakening—accent, inflection, and other similar topics essential to the understanding of the principles which govern the development of the Latin language. This course should accompany Latin 115-116.

125-126. Historical Latin Grammar. Syntax. One credit hour. The year. Prerequisite, Latin 101-104. Mr. Elden.

Lectures on the problems connected with the origin and developments of certain constructions in Latin syntax; a treatment along historical lines of the syntactic uses of the cases, modes, and tenses.

Courses 123 to 126 are deemed essential for those who make Latin a major or minor subject of study in graduate work, and are recommended for advanced undergraduate study.

For graduate courses in this department see the Bulletin of the Graduate School.

MATHEMATICS

Office, 314 University Hall

PROFESSORS BOHANNAN, McCOARD, SWARTZEL, KUHN, RASOR,
ASSOCIATE PROFESSOR ARNOLD, ASSISTANT PROFESSORS PRESTON, BAREIS, WEST, MISS RICKARD

Students intending to make Mathematics a specialty are advised to secure a reading knowledge of French, German and Italian by the beginning of the junior year, and to take some courses in Philosophy, particularly logic, in the junior and senior years.

***105. College Algebra and Trigonometry.** Four credit hours. First semester. Mr. Bohannon, Mr. West.

***106. Plane Trigonometry and Analytical Geometry.** Four credit hours. Second semester. Mr. Bohannon, Mr. West.

121. College Algebra and Trigonometry. Three credit hours. Either semester. Two recitations and one two-hour problem period. Mr. Swartzel, Mr. Rasor, Mr. Arnold, Mr. West.

122. Plane Trigonometry and Analytical Geometry. Three credit hours. Second semester. Two recitations and one two-hour problem period. Mr. Swartzel, Mr. Rasor, Mr. Arnold, Mr. West.

127-128. Calculus. Three credit hours. The year. Prerequisite, Mathematics 106 or 122 or 132. Mr. Kuhn.

129-130. Mathematics of Finance and Insurance. Three credit hours. Two recitations and one laboratory period. The year. Not open to Freshmen. Mr. West.

The mathematical principles of interest and life insurance, together with such practical problems in investments, loans, etc., as may be of value to the general student.

134. Statistical Methods. Two credit hours. Second semester. Not open to Freshmen. Mr. West.

A laboratory course in the compilation and reduction of statistical data with special attention to the methods of Pearson, curve plotting, and correlation problems in biology and the social sciences.

*Not given in 1915-1916.

131. College Algebra and Trigonometry. Five credit hours. Either semester. All instructors.

132. Plane Trigonometry and Analytical Geometry. Five credit hours. Either semester. All instructors.

141. Calculus. Five credit hours. Either semester. Prerequisite, Mathematics 106 or 122 or 132. Mr. Bohannon, Mr. McCoard, Mr. Swartzel, Mr. Kuhn, Mr. Arnold, Mr. Rasor, Mr. West, Miss Bareis, Miss Rickard.

142. Calculus. Five credit hours. Prerequisite, Mathematics 141. Either semester. Mr. Bohannon, Mr. McCoard, Mr. Swartzel, Mr. Kuhn, Mr. Arnold, Mr. Rasor, Mr. West, Miss Bareis, Miss Rickard.

For Advanced Undergraduates and Graduates

Prerequisite, Differential and Integral Calculus.

163-164. Plane and Solid Analytical Geometry. Three credit hours. The year.

***165-166. Advanced Calculus.** Three credit hours. The year.

167-168. Differential Equations. Three credit hours. The year. Mr. Bohannon.

***171-172. Projective Geometry.** Three credit hours. The year.

173-174. Modern Higher Algebra. Three credit hours. The year. Mr. Kuhn.

181. Probability. Three credit hours. First semester. The applications of the Theory of Probability to physical measurements, statistics, and certain problems in insurance. Mr. West.

183-184. Actuarial Theory. Two credit hours. The year. Mr. West.

An advanced course in life contingencies and the actual principles of fire and accident insurance, workmen's compensation and pension system.

For graduate courses in this department see the Bulletin of the Graduate School.

*Not given in 1915-1916.

MECHANICS

Office, 233 Lord Hall

PROFESSORS BOYD AND CODDINGTON

For Advanced Undergraduates and Graduates

101. Statics, Strength of Materials. Five credit hours. First semester. Prerequisite, Mathematics 142. Mr. Boyd, Mr. Coddington.

102. Strength of Materials, Kinetics, and Hydraulics. Five credit hours. Second semester. Prerequisite, Mechanics 101. Mr. Boyd, Mr. Coddington.

104. Strength of Materials. Two credit hours. Second semester. Prerequisite, Mechanics 101. Mr. Boyd.

105-106. Advanced Theoretical Mechanics. Three credit hours. The year. Prerequisite, Mechanics 102 and Differential Equations.

For graduate courses in this department see the Bulletin of the Graduate School.

MILITARY SCIENCE AND TACTICS

Office, The Armory

CAPTAIN CONVERSE, U. S. A., RETIRED, LIEUT. THORPE, U. S. A.,
RETIRED

In accordance with the Morrill Act, passed in 1862, under which the University was established, military instruction must be included in the curriculum. The Board of Trustees, therefore, requires all male students, both special and regular, unless excused by the Military and Gymnasium Board, to drill during two years. This work is under two officers of the regular army, detailed for the purpose. The Military Department is open during five days each week throughout the year.

1. Military Drill. One credit hour. Five months, three hours per week, (divided between fall and spring) military drill; four months, three hours per week, (winter) of classroom instruction in Drill Regulations. Target practice at any open hour during the afternoon of the winter months, at 100, 200 and 300 yards. Lecture, one hour each week, by the President, upon topics of common interest to the student body.

2. Military Drill. One credit hour. Five months, three hours per week, (divided between fall and spring), in extended order and guard duty. Four months, three hours per week, (winter) of class-room instruction in articles of war, guard manual, and field service regulations. Target practice, at any open hour of the afternoon of the winter months at 500, 600, and 800 yards.

MINERALOGY

Office, 104 Lord Hall

ASSISTANT PROFESSOR McCAUGHEY

102. Crystallography and Mineralogy. Three credit hours. Second semester. Prerequisite, Chemistry 106.

Lectures on Crystallography, Physical and Descriptive Mineralogy. Illustrated by drawings, models, and mineral specimens.

104. Determinative Mineralogy. Three credit hours. Second semester. Prerequisite, Mineralogy 102. One lecture and six laboratory hours per week.

Lectures and laboratory work in practical determination of minerals by physical and chemical tests. Each student is furnished with a set of apparatus and works under an instructor's inspection. Brush and Penfield's "Determinative Mineralogy" is used as a manual.

For Advanced Undergraduates and Graduates

121. Microscopic Mineralogy. Three credit hours. First semester. One lecture and six laboratory hours per week. Prerequisite, Mineralogy 102, Physics 112 or 114, and Mineralogy 102.

The use of the polarizing microscope in the identification of minerals in fine powder and in thin section. Determination of the optical constants of minerals and crystallized bodies with the polarizing microscope.

126. Advanced Crystallography and Physical Mineralogy. Three credit hours. Second semester. Two lectures and three laboratory hours per week.

The study of the geometrical and physical properties of crystals. Laboratory work on the measurement, calculation,

and projection of crystals and the determination of physical and optical constants of crystal bodies. Prerequisites, Physics 112 or 114, and Mineralogy 102.

For graduate courses in this department see the Bulletin of the Graduate School.

PHILOSOPHY

Office, 321 University Hall

PROFESSORS LEIGHTON, DAVIES, ASSISTANT PROFESSOR
CHANDLER, MR. BINGHAM

101. Introduction to Philosophy. Three credit hours. Either semester. Open to first year students. Mr. Leighton, Mr. Davies, Mr. Chandler, Mr. Bingham.

The meaning and scope of philosophy, its typical problems, its relations to the special sciences, morality, art, the state, and religion.

102. Introductory Logic. Three credit hours. Either semester. Open to first year students. Mr. Leighton, Mr. Davies, Mr. Chandler, Mr. Bingham.

A practice course in the methods of correct thinking.

105-106. Elementary Ethics. Three credit hours. The year. Not open to first year students. Mr. Davies.

An introduction to the study of the moral life as it appears in the individual and in society.

115-116. Esthetics. Two credit hours. The year. Not open to first year students. Mr. Chandler.

An elementary study of the beautiful in nature and in art.

151-152. History of Philosophy. Three credit hours. The year. Not open to first year students. Mr. Leighton, Mr. Bingham.

The history of reflective thinking on the problems of human life and the world-order will be traced in outline, from the dawn of Greek speculation to the rise of the modern doctrine of evolution. Constant regard will be had to the relation of philosophy to social, literary, and scientific movements.

***155-156. History of Christian Philosophy.** Three credit hours. The year. Open to first year students. Mr. Davies.

*Not given in 1915-1916.

A study of the source material in the New Testament and of the stages through which this material was developed into the scholastic systems of the Middle Ages.

For Advanced Undergraduates and Graduates

111-112. Advanced Ethics. Two credit hours. The year. Prerequisite, one year in philosophy, psychology, or sociology, and one year in a related subject. Mr. Davies.

The chief stages in the evolution of moral ideas of western civilization from the ancient Hebrews and Greeks to the present time.

113. Advanced Logic. Three credit hours. First semester. Prerequisite, Philosophy 102, and one year in psychology, sociology, mathematics, or natural science. Mr. Chandler.

A systematic study of conditions, criteria, nature, and degrees of truth.

119. Philosophy of Religion. Three credit hours. First semester. Prerequisite, one year's work in philosophy, psychology, history of religion. Mr. Leighton.

An account of the actual nature of religion as shown in its chief historical and psychological phenomena, and an interpretation of its significance for culture and the truth of its leading conceptions.

***121-122. Metaphysics.** Three credit hours. The year. Prerequisite, at least one year's work in philosophy and in psychology or a natural science. Mr. Leighton.

A systematic discussion of the fundamental problems of theoretical philosophy; the meaning of truth and its relations to reality, the philosophy of nature, and of the human self, the problems of freedom, evil, immortality and theism.

123-124. Representative Ancient Philosophers. Three credit hours. The year. Mr. Chandler.

Selected works of Plato and Aristotle with reference to their permanent significance for philosophy and politics.

***125-126. Representative Modern Philosophers.** Three credit hours. The year.

Selected works of Descartes, one of the British empiricists,

*Not given in 1915-1916.

Kant and Hegel will be studied with reference to their permanent significance.

Philosophy 123-124 and 125-126 will be given in alternate years.

***129-130. The Humanistic Movement.** Three credit hours. The year. Prerequisite, two years in philosophy, or psychology, or one year in philosophy and one year in a related subject. Mr. Davies.

The problem of man in the history of culture; the meaning of this problem for a philosophy of life.

131-132. Philosophy of Values. Three credit hours. The year. Prerequisite, one year in philosophy, psychology, or economics and sociology, and one year in a related subject. Mr. Davies.

The foundations of our economic, social, ethical, esthetical, and religious judgments, and of the nature of the objects of these judgments.

134. Political and Social Philosophy. Three credit hours. Second semester. Mr. Leighton.

The ethical values and aims involved in social institutions and their evolution with especial reference to the state, the family, economic activities, and education; an examination of the ethical and metaphysical problems involved in the relation of the individual to society, and the philosophy of history.

142. The Main Currents in Contemporary Philosophy. Three credit hours. Second semester. Prerequisite, one year's work in philosophy, psychology, or sociology, or one year's work in the history of Nineteenth Century English, French, or German literature, or one year's work in biology. Mr. Leighton.

A non-technical account and estimate of the chief formative influences in the reflective life of the present time. Intended for students of literature, science, and social movements.

For graduate courses in this department see the Bulletin of the Graduate School.

*Not given in 1915-1916.

PHYSICAL EDUCATION

Office, Gymnasium

DR. H. SHINDLE WINGERT, MR. BARTHOLOMEW, MR. OHLSON,
MISS BOCKER, MISS SAUER, MISS COURTNEY

MEN

The Gymnasium

PROFESSOR WINGERT, MR. OHLSON, MR. BARTHOLOMEW

1. Physical Education. One credit hour. The year. Two hours a week. Required of all first-year students in this college. During the first semester the course consists of one lecture on personal hygiene and one period of active physical exercise each week.

Personal Hygiene. Lectures and quizzes on the cause, prevention, and hygienic treatments of the common preventable diseases and conditions which lower the vitality and interfere with the health and efficiency of the student.

Physical exercise in class: A graded course of free-hand exercises, with light hand apparatus for the relief and correction of slight bodily defects, improper carriage; graded progressive exercises, to promote muscular tone, organic vigor, bodily skill; class dancing, gymnastic and athletic games and contests.

Medical Emergency Section

(In the Gymnasium)

This department maintains a medical emergency section open to students, male or female, in the department. Emergency medical advice and treatment is furnished free to students while on the campus, during regular university hours.

WOMEN

Office, The Gymnasium

MISS BOCKER, MISS SAUER, MISS COURTNEY

1. Physical Education. One credit hour. The year. Four hours per week. Required of all women students during first year of attendance at the University.

Lectures on personal hygiene.

Gymnasium exercises: elementary Swedish gymnastics, calisthenics, drills with wands, Indian clubs, etc. Folk dances, technique of esthetic dancing, and gymnastic games.

Recreative games and sports.

2. Physical Education. One credit hour. The year. Four hours per week. For second year students; required of all women students.

Lectures on principles of physical education.

Gymnasium exercises: a continuation of Physical Education I.

PHYSICS

Office, 107 Physics Building

PROFESSORS COLE, EARHART, BLAKE, BARNETT, SHEARD,
ASSISTANT PROFESSOR SMITH, MR. HEIL

103-104. General Physics. Four credit hours. The year. Recitations, lectures, and laboratory. A non-mathematical course for students who have no entrance credits in physics. Mr. Earhart.

105-106. General Physics. Four credit hours. The year. Prerequisite, entrance credit in physics. Mr. Blake.

107. General Physics. Four credit hours. First semester. Two recitations and two laboratory hours per week. For pre-medical students only. Prerequisite, one unit of entrance physics. Mr. Heil.

111-112. General Physics. Three credit hours. First semester. Two lectures, one recitation, and two laboratory hours per week. Prerequisite, preparatory physics and Mathematics 132. Lectures, Mr. Cole; laboratory, Mr. Heil; recitation, Mr. Cole, Mr. Earhart, Mr. Blake, Mr. Smith, Mr. Heil.

Mechanics and heat; second semester, electricity and light. Physics 111 is given also the second semester.

115-116. Physics Problems. Two credit hours. The year. Prerequisite, Mathematics 132 and a year's work in college physics. Mr. Earhart, Mr. Smith, Mr. Heil.

Two recitations, covering problems in mechanics and heat, the first semester, and electricity and light the second semester.

121-122. Laboratory. Three to five credit hours. The year. Prerequisite, Physics 103-104, or 105-106. Mr. Smith.

For Advanced Undergraduates and Graduates

123-124. Advanced Laboratory. Three to five credit hours. The year. Prerequisite, Physics 121-122. Mr. Smith.

***147. Molecular Physics and Heat.** Three credit hours. First semester. Prerequisites, Physics 103-104, or 105-106, and Mathematics 141-142, or 127-128.

***148. Conduction of Electricity Through Gases and Radio-activity.** Three credit hours. Second semester. Prerequisites, Physics 103-104, or 105-106, and Mathematics 141-142, or 127-128. This course alternates with Physics 143-144.

143-144. Advanced Light and Electricity. Three credit hours. The year. Prerequisite, Physics 103-104, or 105-106, and Mathematics 141, 142 or 127, 128. First semester, light, Mr. Cole; second semester, electricity and magnetism, Mr. Earhart. This course alternates with Physics 147-148.

Physics 143-144 and 147-148 together constitute a two-year cycle moderately advanced, covering the whole subject of physics.

145-146. Physical Seminar. One credit hour. The year. Prerequisite, two years of college work in physics or one year in physics and one in mathematics or chemistry. Mr. Cole.

***169-170. Theoretical Physics.** An advanced course in light. Two credit hours. The year. Prerequisite, Physics 105-106, and Mathematics 141, 142, or equivalents. Mr. Cole.

For graduate courses in this department see the Bulletin of the Graduate School.

PHYSIOLOGY

Office, 204 Biological Hall

PROFESSOR BLEILE, ASSOCIATE PROFESSOR SEYMOUR, ASSISTANT PROFESSOR DURRANT, MR. WRIGHT

101-102. Physiology. Three credit hours. The year. Not open to freshmen. Must be preceded by a course in chemistry. Mr. Bleile, Mr. Seymour, Mr. Durrant, Mr. Wright.

119-120. General Physiology. Three credit hours. The year. Not open to freshmen. Arranged for students who have no credit in chemistry. Mr. Bleile.

*Not given in 1915-1916.

(Students who have had chemistry will elect Physiology 101-102.)

104. Chemical Physiology. Three credit hours. Second semester. Mr. Bleile. Prerequisite, Physiology 101-102.

105-106. Histology and Histo-Chemistry. Five credit hours. The year. Mr. Bleile, Mr. Seymour, Mr. Durrant.

For Advanced Undergraduates and Graduates

109-110. Physiological Laboratory. Three credit hours. The year. Mr. Bleile, Mr. Seymour, Mr. Durrant.

111-112. Physiological Laboratory. Five credit hours. The year. Mr. Bleile, Mr. Seymour.

115. Advanced Physiology. Three credit hours. First semester. Prerequisite, Physiology 101-102. Mr. Bleile.
Circulation, digestion, and respiration.

118. Advanced Physiology. Three credit hours. Second semester. Prerequisite, Physiology 101-102. Mr. Durrant.
The nervous system.

For graduate courses in this department see the Bulletin of the Graduate School.

POLITICAL ECONOMY

(See Economics and Sociology)

POLITICAL SCIENCE

Office, 200 University Hall

PROFESSORS SPENCER AND COKER

101-102. Government in the United States and Europe. Three credit hours. The year. Mr. Spencer, Mr. Coker.

National, state and local government in the United States. Central and local government in England, France, Germany, Switzerland and other European states.

This course is not open to freshmen. It is strongly recommended that it be preceded by a year's work in European or American history. It should precede all other courses offered in this department. It affords a general introduction to the field of political science.

125. Introduction to Jurisprudence. Three credit hours. First semester. Prerequisite, Political Science 101-102, except by special permission of the instructor. Mr. Spencer.

An introductory study of legal concepts. An attempt is made both to give the prospective law student an analytical and historical guide into his subject, and to give those who do not intend to pursue the study of law an idea of its significance in social organization, and its relation to political and economic science.

For Advanced Undergraduates and Graduates

113-114. Problems in International Politics. One credit hour. The year. Prerequisite, Political Science 101-102. Given biennially. Mr. Spencer.

The methods and ideals of diplomacy, with current problems in the relations of World Powers, and the tendency toward administrative, judicial, and quasi-legislative organization of the world.

Lectures and reports.

***127-128. English Politics.** One credit hour. The year. Prerequisite, Political Science 101-102. Given biennially, alternating with Political Science 113-114. Mr. Coker.

The political ideas of present English parties and of the political aspects of recent measures of social reform, state socialism, and constitutional change.

106. Municipal Government. Three credit hours. First semester. Prerequisite, Political Science 101-102. Mr. Spencer.

A comparative study of the **city**, in ancient and modern times, in Europe, England, and America; its social significance and governmental structure; its relation to the state in the law of municipal corporations; experience with government by Council, Mayor, Commission, Manager. As text-books, Munro's Government of European Cities and Munro's Government of American Cities will be used.

130. Municipal Functions. Three credit hours. Second semester. Prerequisite, Political Science 101-102. Mr. Coker.

The work of municipal government in the United States and Europe. The course will give a comparative view of the

*Not given in 1915-1916.

following: police; charities; public works; public utilities; municipal ownership; municipal finance.

126. International Law. Three credit hours. Second semester. Prerequisite, Political Science 101-102. Mr. Spencer.

A study of the principles of international law in their growth and present status together with an examination of some of the unsettled questions in this field.

131. Legislation. Two credit hours. First semester. Prerequisite, Political Science 101-102. Mr. Coker.

A study of the work and methods of American legislatures. State legislatures will be chiefly considered, but comparisons will be made with Congress and with foreign parliaments. The following subjects will be discussed: the composition, organization, and procedure of legislative bodies; the preparation of bills—as to form and subject matter; the general character and scope of statute law-making in the United States.

132. Administration. Two credit hours. Second semester. Prerequisite, Political Science 101-102. Mr. Coker.

A study of the organization and activities of administrative departments and commissions. State administration in the United States will primarily be studied. Special attention will be devoted to administrative regulation of public service corporations, of industrial and social relations, and of finance.

107. Party Government. Three credit hours. Second semester. Prerequisite, Political Science 101-102. Given biennially. Mr. Spencer.

Parties will be considered as extra-governmental agencies for political purposes; their reason for being, their organization and methods, the effect of their activity upon governmental processes.

***109. The Government of Ohio.** Three credit hours. Second semester. Prerequisite, Political Science 101-102. Given biennially. Mr. Spencer.

A survey will be presented of the governmental institutions of Ohio, state and local, political and administrative, in their historical evolution and present status; regard will be paid to their constitutional, statutory, and practical bearing.

*Not given in 1915-1916.

***129. History of Political Theories.** Three credit hours. First semester. Prerequisite, Political Science 101-102. Given biennially. Mr. Coker.

The development of leading ideas in politics will be traced from the time of the Greeks to the present.

105. Comparative Constitutional Government. Three credit hours. First semester. Prerequisite, Political Science 101-102. Given biennially. Mr. Coker.

A comparative study of the constitutions of the United States and leading foreign countries: the extent of suffrage, and the powers of the voters; the structure and functions of the legislature, executive, and judiciary; the rights of the individual against the government.

117-118. Seminar in Political Science. Two credit hours. The year. Prerequisite, Political Science 101-102, and two other semester courses in the Social Science group. Mr. Coker.

The general topic for the year's work: The administration of justice. Special studies will be made of the organization of American courts, the power of courts in relation to constitutional questions, "judicial legislation," reforms of procedure, the recall of judges, and of judicial decisions. American courts will be studied primarily; but comparisons with European judicial systems will be made.

The method in general is that of presentation of reports for mutual criticism and suggestion.

For graduate courses in this department see the Bulletin of the Graduate School.

PSYCHOLOGY

Office, 404 University Hall

PROFESSORS ARPS, HAINES, ASSISTANT PROFESSOR PINTNER, MR. WEISS, MR. EVANS

101-102. Elementary Psychology. Introductory course. Three credit hours. The year. All instructors.

Psychology 101 is given also the second semester.

Psychology 102 is given also the first semester.

Psychology 111 may be taken with Psychology 102.

*Not given in 1915-1916.

103-104. Elementary Psychology. Two credit hours. The year. Students electing this course must take Psychology 111 in conjunction with 104. Mr. Arps.

111-112. Experimental Psychology. Three credit hours. The year. Lecture and laboratory. Prerequisite, Psychology 101-102 or concurrent with 102. Mr. Arps, Mr. Weiss.

Psychology 111 is given also the second semester.

Psychology 112 is given also the first semester.

A systematic training course in the method of introspection, which brings one to a first-hand acquaintance with the facts of the mental life. Topics: The sense fields, geometrical optical illusions, stereoscopic and pseudoscopic illusions, tactual space perception, auditory localization, attention, reaction-time, memory types, tonal fusion, association, and analysis of judgment.

114. Mental and Social Measurements. Two credit hours. First semester. Prerequisite, Psychology 101-102 or 103-104. Mr. Weiss.

A course designed to meet the needs of those students who expect to carry on investigation in psychology, education and the social sciences. Topics: Standard methods of handling data; computation of averages, deviations and correlations; graphical representation; grading and marking systems.

115-116. Genetic Psychology. Two credit hours. The year. Prerequisite, Psychology 101-102 or 103-104. Mr. Evans.

The natural history of the development of the mind. The important transitional periods in the life of the individual. The characteristics of the child mind and the laws of mental life will receive special attention.

149-150. Physiological Psychology. Two credit hours. The year. Prerequisite, Psychology 101-102 or 103-104.

This course is adapted to meet the needs of medical students and those taking courses in abnormal psychology and the defective child. A more detailed consideration is given the nervous mechanism and the correlation of the nervous mechanism with mental phenomena.

Topics: Nervous elements and their functions; end organs and their functions, cerebral functions, correlation of sensation, perception, feeling, emotion, memory, with the nervous mechanism.

For Advanced Undergraduates and Graduates

119. Animal Psychology. Three credit hours. Second semester. Prerequisite, Psychology 101-102 or 103-104. Mr. Weiss.

It is desirable that students shall have had work in zoology or experimental psychology. A survey of animal behavior from the lower to the higher forms with especial emphasis upon the development of tropisms and instinctive reactions and their relation to the learning process in human behavior. A few typical experiments will be studied in the laboratory.

121. Abnormal Psychology. Four credit hours. First semester. Prerequisite, Psychology 101-102 or 103-104. Mr. Pintner, Mr. Haines.

The main types of insanity, both for the knowledge of the constitution of the abnormal mind, and for the knowledge gained by contrast, of the normal mind. Clinics, lectures, and recitations.

122. The Defective Child. Four credit hours. Second semester. Prerequisite, Psychology 101-102 or 103-104. Mr. Pintner, Mr. Haines.

The varieties and grades of mental deficiency, including the backward child of the schools and the distinctly feeble-minded. The causes and treatment of the same. Lectures, recitations, and clinics.

125. Social Psychology. Three credit hours. First semester. Prerequisite, Psychology 101-102 or 103-104.

The origin and meaning of certain psychic uniformities in human society. The relation of these uniformities to modern social life; the development of personality; application to the problem of society, school conditions and educational aims.

126. Folk Psychology. Three credit hours. Second semester. Prerequisite, Psychology 101-102 or 103-104.

The psychic factors involved in group activities, religious rites, myths, tribal customs, language, art.

128. Psychology of Advertising. Two credit hours. Second semester. Prerequisite, Psychology 101-102. After 1915-16, 103-104 or 101-102, 111.

A psychological study of the mediums employed in effective advertising. The types of appeal; the nature and laws of ef-

fective appeal. The relation of instincts, memory, feelings and emotions to effective advertising. Lectures, reports and investigations of practical problems in the laboratory.

129-130. Advanced Psychology. Two credit hours. The year. Prerequisite, Psychology 101-102 or 103-104. Mr. Arps.

This course is intended for students who desire a more detailed knowledge of the normal mental processes than is possible in an introductory course. A course fundamental to all fields of psychology and philosophy and to allied fields which involve human behavior.

133-134. Mental Tests. Two to five credit hours. The year. Prerequisite, Psychology 111-112 or 107-108 or 121-122. Mr. Pintner.

Practical laboratory work in the application of all kinds of psychological tests and educational scales.

Adapted to meet the individual needs of all prospective teachers or those desiring practice in applying the Binet scale and other scales for mental classification.

137-138. Psychology of Memory and Emotion. Two credit hours. The year. Prerequisite, Psychology 129-130. Mr. Arps.

Discussion of the various theories; study of evidence showing the unreliability of testimony; feeling and emotion as determinants of reproduction; relation of feeling and emotion to the intellectual processes.

141-142. Minor Research. Two credit hours or more. The year. Prerequisite, at least twelve hours in psychology. Mr. Arps, Mr. Pintner, Mr. Weiss.

Investigation of minor problems in the various fields of psychology.

***147-148. The Psychological Clinic.** Two credit hours. The year.

A seminar course devoted to the methods of diagnosis and treatment of exceptional children.

For graduate courses in this department see the Bulletin of the Graduate School.

*Not given in 1915-1916.

RHETORIC AND ENGLISH LANGUAGE

(See English)

ROMANCE LANGUAGES AND LITERATURES

Office, 305 University Hall

PROFESSORS BOWEN, BRUCE, INGRAHAM, ASSISTANT PROFESSORS HAMILTON, CHAPIN, PEIRCE, MR. DITCHY, MR. MOORE

French 101-102, 103-104 must precede all other courses in French, except Course 106. French 117 to 120, inclusive, must be preceded by French 107, 109, and 110, or an equivalent.

FRENCH

101-102. Elementary French. Four credit hours. The year. Grammar: Fraser and Squair's, or equivalent. Reader: Aldrich and Foster's, or Bowen's First Scientific. Historical and narrative prose; one or more prose comedies. All instructors.

Stress is laid first upon the acquisition of a correct pronunciation, after which the entire energy of the student is directed toward the attainment of a full and accurate reading knowledge of the language. Grammar and composition made to contribute to this end. Sight reading is emphasized.

French 101 is given also the second semester.

103-104. Modern French Literature. Four credit hours. The year. Prerequisite, French 101-102, or an equivalent. Mr. Bruce, Mr. Hamilton, Mr. Chapin, Mr. Ditchy, Mr. Moore.

The work of the year deals with the following subjects: (1) Contes; (2) The novel (Balzac or Hugo); (3) Lyric poetry; (4) Romantic drama (Hugo). Prose composition, with practice in speaking. Systematic attention given to syntax and idiom. Lectures supplement the work. Private reading required.

106. Science Reading. Four credit hours. Second semester. Prerequisite, French 103. Mr. Chapin.

A course of rapid reading introductory to the vocabulary of scientific literature.

*Not given in 1915-1916.

For Advanced Undergraduates and Graduates

107. Advanced Prose Composition. Two credit hours. First semester. Mr. Ingraham, Mr. Peirce.

Cameron's French Composition, followed by other selections. Dictation. Conversation. The course is conducted mainly in French.

108. History of French Literature. Two credit hours. Second semester. Lectures and illustrative readings. Mr. Ingraham.

109. Seventeenth Century Drama. Moliere and Corneille. Three credit hours. First semester. Mr. Bowen, Mr. Peirce.

Lectures on the growth of French comedy and tragedy. Critical study of representative plays of Moliere, Regnard, and Corneille. Collateral reading. Assigned topics and reports.

110. Seventeenth Century Tragedy and Prose. Three credit hours. Second semester. Mr. Bowen, Mr. Peirce.

Representative dramas of Racine; Hachette's *Theatre choisi de Racine*. Study of Descartes, Pascal, La Bruyere, and others; Warren's *Selections*. Lectures, with collateral reading and reports.

111. Eighteenth Century Drama. Three credit hours. First semester. Prerequisite, French 109 and 110. Mr. Ingraham.

Lectures on French comedy after Moliere with work centering on Marivaux and Beaumarchais. Study of the drama of Voltaire. Collateral reading and reports.

112. Nineteenth Century Drama. Three credit hours. Second semester. Prerequisite, French 109 and 110. Mr. Ingraham.

Tendencies of French drama during the nineteenth century, with especial reference to Scribe, Augier, Dumas fils, and Sardou. Lectures, with collateral reading and reports.

113. Recent French Prose. Two credit hours. First semester. Given biennially, alternating with French 115. Mr. Bruce.

Rapid reading, with lectures. Selections from the works of such writers as Bazin, Daudet, Loti, Zola.

114. Practice in Speaking and Writing French. Two credit hours. Second semester. Students wishing to elect this course must have the consent of the instructor in charge. Given biennially, alternating with French 116. Mr. Bruce.

***115. Eighteenth Century Prose.** Two credit hours. First semester. Given biennially, alternating with French 113. Mr. Bruce.

Selections from Voltaire (ed. Cohn and Woodward), Rousseau, and others.

***116. Advanced Conversational Practice.** Two credit hours. Second semester. Students wishing to elect this course must have the consent of the instructor in charge. Given biennially, alternating with French 114. Mr. Bruce.

117-118. French Seminar A. Two credit hours. The year. Mr. Bowen.

Studies in specific literary fields. The subject for 1915-1916, will probably be: Recent and contemporary French drama.

119-120. French Seminar B. Two credit hours. The year. Mr. Bowen.

Studies in Old French (with emphasis on la Chanson de Roland) and in the language and writers of the sixteenth century. Special consideration of Montaigne.

ITALIAN

101-102. Elementary Italian. Four credit hours. The year. Grandgent's or Young's Grammar and Bowen's Reader. Modern prose. Comedies of Goldoni. Students are advised to postpone the election of this course until they have completed French 101-102, or an equivalent. Mr. Bruce.

For Advanced Undergraduates and Graduates

***103. The Italian Novel.** Two credit hours. First semester. Manzoni (*I Promessi Sposi*, and others). Lectures. Prerequisite, Italian 101-102. Mr. Bruce.

***104. Dante.** Two credit hours. Second semester. Selections from the *Inferno* and *Paradiso*. Lectures. Prerequisite, Italian 103. Mr. Bruce.

SPANISH

101-102. Elementary Spanish. Four credit hours. The year. Grammar: Ingraham—Edgren's, and Ingraham's *Victoria y*

*Not given in 1915-1916.

Otros Cuentos. Easy prose and plays. Composition and practice in speaking. Mr. Ingraham, Mr. Hamilton, Mr. Chapin, Mr. Ditchy, Mr. Moore.

Spanish 101 is given also the second semester.

For Advanced Undergraduates and Graduates

103-104. Modern Spanish Literature. Four credit hours. The year. Prerequisite, Spanish 101-102, on an equivalent. Mr. Ingraham or Mr. Chapin.

The modern novel and drama. Lectures covering a survey of the literature. Composition and practice in speaking continued.

***105. Cervantes: Don Quijote.** Two credit hours. First semester. Prerequisite, Spanish 103-104. Given biennially, alternating with Spanish 107. Mr. Ingraham.

***106. Lope de Vega and Calderon.** Two credit hours. Second semester. Prerequisite, Spanish 105. Given biennially, alternating with Spanish 108. Mr. Ingraham.

107. The Pastoral Novel and the Romance of Roquery. Two credit hours. First semester. Prerequisite, Spanish 103-104. Given biennially, alternating with Spanish 105. Mr. Ingraham.

108. Contemporaries of Lope de Vega and Calderon. Two credit hours. Second semester. Prerequisite, Spanish 107. Given biennially, alternating with Spanish 106. Mr. Ingraham.

110. Commercial Reading and Correspondence. Four credit hours. Second semester. Prerequisite, Spanish 103. Mr. Chapin.

A course designed to familiarize students with the vocabulary of business and with the forms of Spanish commercial paper and correspondence.

For graduate courses in this department see the Bulletin of the Graduate School.

*Not given in 1915-1916.

SOCIOLOGY

(See Economics and Sociology)

SPANISH

(See Romance Languages)

ZOOLOGY AND ENTOMOLOGY

Office, 101 Botany and Zoology Building

**PROFESSOR OSBORN, ASSOCIATE PROFESSOR HINE, ASSISTANT
PROFESSORS BARROWS, KRECKER, METCALF, MR. KOSTIR**

101-102. Elementary Zoology. Three credit hours. The year. Laboratory and lectures. Mr. Osborn, Mr. Barrows, Mr. Kreckler, Mr. Kostir, and assistants.

An introductory general course intended to give an acquaintance with animal life and the principles of biology and as a foundation for more advanced courses.

Zoology 101 is given also the second semester.

107-108. Economic Entomology. Three credit hours. The year. Prerequisite, Zoology 101-102. Mr. Osborn, Mr. Metcalf.

A systematic study of groups of insects, with special reference to injurious and beneficial species. A foundation is laid for special study in entomology. Preparation of collections, essays, life studies, and use of remedial measures, along with laboratory studies on general anatomy.

121-122. Invertebrate Morphology. Three to five credit hours. The year. Prerequisite, Zoology 101-102. Mr. Kostir.

131-132. Evolution. Three credit hours. The year. Prerequisite, one year of zoology or an equivalent. Mr. Osborn, Mr. Barrows, Mr. Kreckler.

The facts and theories of the origin, development, and distribution of animal life. The first semester deals chiefly with variation, isolation, and heredity as the fundamental factors in evolution of animal forms. The second semester is devoted to geographical distribution, adaptations, and the application of the laws of heredity to practical problems.

139. Ornithology. Two credit hours. First semester. Prerequisite, one year in biology. Mr. Hine.

The anatomy of the birds and a study of museum specimens.

140. Ornithology. Two credit hours. Second semester. Field work. Prerequisite, one year in biology. Mr. Hine.

For Advanced Undergraduates and Graduates**129-130. Quantitative Studies in Variation and Heredity.**

Two to five credit hours. The year. Prerequisite, Zoology 101-102, and one year of another biological science, or equivalent. Mr. Barrows.

137-138. Advanced Entomology. Three to five credit hours.

The year. Mr. Osborn.

Advanced practical course dealing with morphology, development, biological relations, and principles of classification, for those wishing to investigate some special groups of insects or to fit themselves for professional work in entomology.

141-142. Minor Investigations. Three to five credit hours.

The year. Prerequisite, Zoology 101-102, and the equivalent of 103-104, or 121-122, or 125-126. Mr. Osborn, Mr. Barrows, Mr. Hine, Mr. Kreckler, Mr. Metcalf.

143-144. Seminar. One credit hour. The year Mr. Osborn.

Discussion of assigned subjects, report on research work, current literature, etc. Advanced and graduate students in the department are expected to register in this course.

149. Medical Entomology. Three credit hours. First semester. Prerequisite, Zoology 101-102, 107-108, 121-122, or equivalents. Mr. Metcalf.

Lectures, demonstrations, and recitations upon the insects concerned in production and transmission of diseases of man or domestic animals, parasitism, relation to pathogenic bacteria and protozoa, sanitation, and health.

153-154. Quantitative Studies in Animal Behavior. Two to five credit hours. The year. Prerequisite, Zoology 101-102, 107-108 or equivalent. Mr. Barrows.

157-158. Animal Parasitology. Three to five credit hours. The year. Prerequisite, Zoology 101-102, 121-122 or equivalent. Mr. Kreckler.

A consideration from the zoological standpoint of the parasitic forms in all animal phyla. In lectures and assigned readings attention will be given to the conditions of parasitic life, the effects upon the host, and origin of parasitism. Laboratory studies of life histories and practice in technic.

For graduate courses in this department see the Bulletin of the Graduate School.

GENERAL INFORMATION

THE BRYAN PRIZE

Through the generosity of Hon. William J. Bryan an annual prize of twenty-five dollars is offered for the best essay on the principles underlying the form of government of the United States. Competition for this prize is open to all students of the University. For further information, make inquiry of the head of the department of American History.

THE APPOINTMENT COMMITTEE

In order to serve the schools of the State, the University Faculty has provided a committee, one of the duties of which is to assist graduates of the University to teaching positions for which they are best fitted. Any student of the University intending to teach is invited to enroll his name with the committee on a blank provided for that purpose by the committee. Graduates of the University who are already engaged in teaching are also cordially invited to correspond with the Appointment Committee with a view to bettering their positions. Correspondence is invited from Boards of Education and from Superintendents and Principals of Schools in need of teachers. No fee is charged for the services of the committee.

FEES AND EXPENSES

All fees must be paid at the opening of each semester as a condition of admission to classes. Registration is not complete until certain incidental and laboratory fees are paid.

Incidental Fee—The fee for all students is \$15.00 a semester.

Former students who do not pay this fee until the third day of the first semester, and the second day of the second semester, must pay one dollar additional. For each day of delinquency thereafter fifty cents is added.

Laboratory Deposit—Students are required to pay for all materials consumed in laboratory work. To meet the cost of these materials a deposit for each course requiring such sup-

plies is made at the Bursar's office before the work is begun. In Chemistry the deposit is \$10.00; in Botany and Zoology it is \$2.00. All laboratory supplies are sold at the General Store Room, Chemistry Hall, to students at cost to the University, and charged against the deposit. Any unused part of the deposit is refunded at the end of the semester.

OTHER EXPENSES

Locker Fee—The gymnasium is free to all students, but those desiring to use a locker are charged a fee of two dollars a semester, which includes the rental of towels.

Cadet Uniform—The uniform with which the members of the regiment are required to provide themselves costs (without overcoat) about twelve dollars. It is quiet in pattern, and may be worn in place of civilian dress. New students are advised against buying second-hand uniforms unless they have previously been inspected and approved by the Commandant. Inspection has shown in many cases that the second-hand uniforms were unfit to wear and certainly not worth the price asked for them. All such uniforms are subject to rejection by the Commandant. Students should not arrange for uniforms until so directed by the military authorities.

The Ohio Union—A fee of one dollar a semester is paid by all male students at registration. This entitles the student to all the privileges of the Union, consistent with the Constitution and House Rules governing it.

Graduation Fee—A fee of five dollars, to cover expense of graduation and diploma, is required of each person receiving one of the ordinary degrees from the University, and this fee must be paid on or before the last Friday preceding Commencement. A like fee of ten dollars is charged each person receiving one of the higher graduate degrees.

Rooms and Board—Furnished rooms, accommodating two students, can be rented at one dollar to one dollar and a half per week for each student. Board at the restaurants and boarding clubs near the University costs from three dollars and twenty-five cents to three dollars and fifty cents per week. The Ohio Union Commons offers board to men at reasonable rates.

Board with furnished rooms can be obtained in private families at rates varying from five and a half to six dollars per week.

Text-books—Students should not purchase text-books until they are advised by the instructors of their respective classes.

EXPENSES PER YEAR

One of the most perplexing questions that confronts a prospective student is what the course is going to cost him a year.

In order to furnish information, we have listed below an estimate of the average payments required by the University for the freshman year in the College of Arts, Philosophy and Science, and have estimated the cost for room and boarding at a safe price. These two items are sometimes reduced slightly where two students occupy the same room and where boarding clubs are economically managed. Fees to the University are paid one-half at the beginning of each semester.

Incidental fee	\$ 30 00
Ohio Union	2 00
Gymnasium locker	4 00
Deposits (if Chemistry is elected).....	20 00
Uniform	12 00
Books	15 00
Board—(36 weeks at \$3.50 per week).....	126 00
Room rent, at \$8.00 per month.....	72 00
General expenses	100 00
	<hr/>
	\$381 00

The item of general expenses is always subject to the personal habits of the individual, and varies according to the degree of economy exercised.

Note—In order to meet all the necessary expenses of registration, book, uniform, and other expenditures incident to securing a room and board, a student should come prepared to expend from \$65.00 to \$75.00 during the first ten days of a semester. After that period, his board and room rent will constitute the major part of his expenses.

Women Students

As far as possible, women students should make arrange-

ments for room and board in advance. An effort will be made to secure suitable accommodations in private residences for such as cannot be accommodated in Oxley Hall. Prospective women students should address Miss Caroline Breyfogle, Dean of Women, Ohio State University, Columbus, Ohio.

Graduate Assistantships

To encourage graduates of this University, and of other approved institutions of learning, to continue their studies and to undertake advanced work leading to the higher degrees, the University has established assistantships in several departments. These demand about one-half of the time of the student for laboratory or other assistance—as far as possible along the line of his graduate study. The remainder of his time is given to graduate work. The assistantships pay from \$150 to \$300 for the academic year. Application for an assistantship should be made on a blank which may be obtained from the Registrar. Students working toward an assistantship in a given department should inform the head of the department of that fact as early as possible in their undergraduate course.

TIME SCHEDULE

COLLEGES OF ARTS AND EDUCATION

The following courses and sections are intended primarily for students in the Colleges of Arts and Education. Assignment to sections will be made strictly according to the order of receipt of the elective cards and students will be admitted to the sections they elect, provided those sections are not already filled.

Students from the Colleges of Arts and Education must not elect courses not listed here without first consulting the secretary of their college.

Explanations

The two columns of figures under Course No. give the number of the course for the two semesters. The third column of figures indicates the number of credit hours per semester of the course.

KEY TO ABBREVIATIONS

- Bi.—Biological Building
- B. Z.—Botany and Zoology Building
- Br.—Brown Hall
- Ch.—Chemistry Hall
- Ha.—Hayes Hall
- H. F.—Horticulture and Forestry
- L.—Library
- Lo.—Lord Hall
- Obs.—Observatory
- O.—Orton Hall
- P.—Page Hall
- Pav.—Judging Pavilion
- Ph.—Physics Building
- R. L.—Robinson Laboratory
- T.—Townshend Hall
- U.—University Hall
- V. C.—Veterinary Clinic
- V. L.—Veterinary Laboratory

L.—Lecture; Q.—Quiz; Lab.—Laboratory; R.—Recitations.

ANATOMY

Course No.	Hours	Time	Room	Instructor
101-102	3 to 5	L. W., at 1 Lab. W., Th., F., after- noons	Bio. 109	Landacre, Hoskins
103-104	3 to 5	L. Th., at 1 Lab. W., Th., F., after noons	Bio. 107	Landacre
105-106	3 to 5	To be arranged	Bio.	Landacre
109-110	3 to 5	To be arranged	Bio.	Landacre
111-112	1	Tu., at 4	Bio. 103	Landacre
113-114	3 to 5	To be arranged	Bio.	Landacre
201-202	3 to 5	To be arranged	Bio.	Landacre
203-204	5 to 10	To be arranged	Bio.	Landacre
142 Vet.	4	L. M., F., at 8 Lab.	Bio. 101	Landacre

AMERICAN HISTORY

101-102	3	M., W., F., at 8	U. 209	Schlesinger
101-102	3	M., W., F., at 8	U. 205	Bacot
101-102	3	M., W., F., at 9	L. 107	Schlesinger
101-102	3	M., W., F., at 9	U. 209	Bacot
101-102	3	M., W., F., at 1	U. 205	Schlesinger
101-102	3	M., W., F., at 1	U. 209	Bacot, Hockett
101-102	3	M., Tu., F., at 4	U. 205	Hockett
101-102	3	Tu., Th., S., at 11	U. 205	Bacot
101	3	Tu., Th., S., at 9	U. 205	Bacot
103-104	3	M., W., F., at 11	U. 205	Bacot
107-108	2	Tu., Th., at 11	U. 202	Hockett
109-110	2	M., F., at 10	U. 205	Schlesinger
113	3	M., W., F., at 3	U. 205	Schlesinger
114	3	M., W., F., at 3	U. 205	Knight
115-116	3	M., W., F., at 2	U. 205	Hockett
119-120	2	Tu., Th., at 3	L. 303	Hockett
121	2	Tu., Th., at 9	U. 205	Knight
123-124	3	M., W., F., at 9	U. 205	Knight
201-202	2	M., 4 to 6	L. 303	Knight
205-206	2	W., 4 to 6	L. 303	Hockett

ASTRONOMY

Course No.	Hours	Time	Room	Instructor
101-102	3	M., W., F., at 8	Obs.	Manson
101-102	3	M., W., F., at 9	Obs.	Manson
104	3	M., 10 to 12; Th., 1 to 5; W., at 11	Obs.	Lord
		Tu., 10 to 12; W., 1 to 5; F., at 11	Obs.	Lord
105	3	M., W., F., at 11; M., Tu., 1 to 4	Obs.	Lord
		M., Tu., Th., at 10; Th., F., 1 to 4	Obs.	Lord
105	3	Th., 10 to 12; S., 8 to 12	Obs.	Lord
107-108	3 to 5	To be arranged	Obs.	Lord
109-110	4	To be arranged	Obs.	Lord

BACTERIOLOGY

101	4	L. M., F., at 10 Lab. Tu., 10 to 12; S., 8 to 11	V. L. 102 V. L. 8 V. L. 8	Morrey Starin Starin
		M., 1 to 4; Th., 10 to 12	V. L. 102	Froning
102	2	L. M., at 9 Lab. W., 1 to 4	V. L. 201	Froning
107	4 or 5	L. M., W., at 11 T., Th., at 9 Lab. M., 1 to 4; S., 8 to 11	V. L. 101, 102 V. L. 101, 102 V. L. 201, 205	Morrey Morrey Froning, McCoy
		Tu., Th., 1 to 4	V. L. 201, 205	Froning, McCoy
		W., F., 1 to 4	V. L. 201, 205	Froning, McCoy
108	2 to 5	L. M., W., at 11 T., Th., at 9 Lab. afternoons	V. L. 101, 102 V. L. 101, 102 V. L. 205	Morrey Morrey Froning, McCoy
110	2 to 5	L. Tu., Th., at 11 Lab. afternoons	V. L. 102 V. L. 201	Morrey Morrey
112	2 to 5	L. Tu., Th., at 8 Lab. afternoons	V. L. 102 V. L. 201	Morrey Morrey

BACTERIOLOGY—Continued

Course No.	Hours	Time	Room	Instructor
114	2 to 5	L. M., W., at 9 Lab. afternoons	V. L. 102 V. L. 205	Morrey Morrey, McCoy
116	2 to 5	L. M., W., at 8 Lab. afternoons	V. L. 102 V. L. 201	Morrey Morrey
117	2 to 5	L. W., at 11; F., at 1 Lab. Tu., Th., 1 to 4 W., 1 to 4; F., 2 to 5	V. L. 102 V. L. 8 V. L. 8	Starin Starin Starin
118	2 to 5	L. M., at 2; F., at 1 Lab. W., 1 to 4; F., 2 to 5	V. L. 102 V. L. 8	Starin Starin
119-120	2 to 5	To be arranged		Starin
121-122	2 to 5	To be arranged		Morrey
123-124	2 to 5	To be arranged		Morrey
125-126	2 to 5	To be arranged		Morrey, Starin
51	3	L. M., W., F., at 8	V. L. 102	Starin

BIBLICAL LITERATURE

103-104	3	M., Tu., Th., at 10	O. 2	Breyfogle
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BIBLIOGRAPHY

101-102	1	To be arranged	L.	Jones
103	$\frac{1}{2}$	M., at 3	L. 107	Reeder
103	$\frac{1}{2}$	Tu., at 3	L. 107	Reeder
103	$\frac{1}{2}$	Th., at 9	L. 107	Reeder
103	$\frac{1}{2}$	Th., at 3	L. 107	Reeder
103	$\frac{1}{2}$	F., at 10	L. 107	Reeder
105-106	1	W., at 4	L. 107	Reeder

BOTANY

101-102	4	L., T., at 8	B. Z. 100	Schaffner
		Tu., at 10	B. Z. 100	Detmers
		W., at 11	B. Z. 100	Griggs
		W., at 1	B. Z. 100	Stover
		Lab., M., F., 10 to 12	B. Z. 108	Griggs
		Tu., Th., 8 to 10	B. Z. 108	

Course No.	Hours	Time	Room	Instructor
		Tu., Th., 8 to 10	B. Z. 62	
		Tu., Th., 10 to 12	B. Z. 206	
		Tu., Th., 10 to 12	B. Z. 108	
		M., Tu., 1 to 3	B. Z. 108	
		Th., F., 1 to 3	B. Z. 108	
		Tu., Th., 1 to 3	B. Z. 206	
		M., F., 1 to 3	B. Z. 206	
		M., Tu., 1 to 3	B. Z. 62	
		Th., F., 1 to 3	B. Z. 62	
		Q., M., at 3	B. Z. 208, 110	
		Tu., at 3	B. Z. 208, 110	
		Th., at 8	B. Z. 208	Griggs
		Th., at 10	B. Z. 110	
		W., at 9	B. Z. 208	
		Th., at 3	B. Z. 208, 110	
		F., at 3	B. Z. 208, 110	
107	2	W., 1 to 4	B. Z. 108	Detmers
110	2	W., 1 to 4	B. Z. 110, 62	Schaffner
112	4	M., W., F., at 11; W., 1 to 3	B. Z. 108, 110	Detmers
113	3	W., at 11; M., F., 9 to 11	B. Z. 208, 206	Stover
116	3	W., at 11; M., F., 9 to 11	B. Z. 206, 208	Stover
117-118	4	Tu., Th., at 9; M., W., 1 to 4	B. Z. 110, 112	
120	3	Sat. and Mon. P. M.	B. Z. 208	Griggs
121	3	W., 1 to 4	B. Z. 110, 62	Schaffner
125-126	4	Tu., Th., at 8; Tu., Th., 1 to 3	B. Z. 110, 112	
127-128	3	L., Tu., Th., at 9 Lab., Tu., Th., arranged	B. Z. 208 B. Z. 210	Griggs

BOTANY—Continued

Course No.	Hours	Time	Room	Instructor
129-130	3 to 5	M., 1 to 4	B. Z. 60	Schaffner
		Tu., Th., to be arranged		
131-132	3 to 5	To be arranged	B. Z. 104	Schaffner
133-134	3	To be arranged		Schaffner, Griggs
135-136	1	M., at 4	B. Z. 110	Schaffner
137-138	1	To be arranged	B. Z. 104	Schaffner
139-140	3 to 5	Lab. Tu., W., Th., ar- ranged	B. Z. 210	Griggs
142	2	F., 1 to 4	B. Z. 62	Schaffner
143-144	3	W., 1 to 4; other hours arranged	B. Z. 210	Griggs
201-202	3 to 10	To be arranged	B. Z. 104	Schaffner, Griggs
203-204	4 to 10	To be arranged	B. Z. 104	Schaffner, Griggs
205-206	4 to 10	To be arranged	B. Z. 112	
207-208	3 to 10	To be arranged	B. Z. 210	Griggs Stover
91	4	To be arranged		Stover

CHEMISTRY

101-102	4	L., F., at 10	Ch. 101	Evans
		Q., M., at 10	Ch. 302	
		Tu., at 10	Ch. 301	
		Lab. M., Tu., 1 to 4	Ch. 6	
		Th., F., 1 to 4	Ch. 6	
101	4	Lab. W., 8 to 10		
		S., 8 to 12 (V. M.)	Ch. 6	
104	2	M., at 11; S., 8 to 11 (V. M.)	Ch. 6	
105-106	4	L., M., at 8	Ch. 200	Evans
		M., at 3	Ch. 200	Evans
		Q., Tu., at 8	Ch. 302	
		Tu., at 10	Ch. 302	
		Tu., at 11	Ch. 207	
		W., at 11	Ch. 302	

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE 99

Course No.	Hours	Time	Room	Instructor
		Th., at 9	Ch. 302	
		Th., at 11	Ch. 302	
		Th., at 1	Ch. 207	
		Th., at 2	Ch. 207	
		Th., at 3	Ch. 207	
		F., at 8	Ch. 207	
		F., at 9	Ch. 302	
		F., at 10	Ch. 207	
		F., at 1	Ch. 207	
		F., at 2	Ch. 207	
		F., at 3	Ch. 207	
		Lab., M., Tu., 1 to 4	Ch. 1, 6	
		Th., F., 1 to 4	Ch. 1, 6	
		M., F., 9 to 12	Ch. 1, 6	
		Tu., Th., 9 to 12	Ch. 1, 6	
		W., 1 to 4; S., 8 to 11	Ch. 1, 6	
105	4	L. F., at 8	Ch. 200	
		Q. M., at 8	Ch. 302	
		Lab. M., F., 9 to 12		
109-110	4	L., Tu., at 8	Ch. 200	Evans
		W., at 11	Ch. 200	Evans
		Q. Th., at 8	Ch. 302	
		Th., at 10	Ch. 302	
		Th., at 11	Ch. 207	
		Th., at 1	Ch. 302	
		Th., at 2	Ch. 302	
		Th., at 3	Ch. 302	
		F., at 8	Ch. 302	
		F., at 9	Ch. 207	
		F., at 10	Ch. 302	
		F., at 11	Ch. 302	
		Lab., M., Tu., 1 to 4	Ch. 1, 6	
		Th., F., 1 to 4	Ch. 1, 6	
		M., F., 9 to 12	Ch. 1, 6	
		Tu., Th., 9 to 12	Ch. 1, 6	
		W., 1 to 4; S., 8 to 11	Ch. 1, 6	
109		L. Th., at 8	Ch. 200	
		Q., Tu., at 8	Ch. 301	
		Lab. M., F., 9 to 12		

CHEMISTRY—Continued

Course No.	Hours	Time	Room	Instructor
113-114	2	Tu., Th., at 11	Ch. 200	Henderson
117	3	To be arranged		
119-120	4	L., W., at 1 Lab. open daily 8 to 12 and 1 to 4	Ch. 200	Foulk
121	4	L., W., at 1 Lab. open daily 8 to 12 and 1 to 4	Ch. 200	Foulk
124	1	F., at 10	Ch. 200	Foulk
127	4	Tu., Th., at 1; W., F. at 8	Ch. 200	McPherson
131-132	2	To be arranged		McPherson
136	2	Tu., Th., at 10	Ch. 207	Foulk
151-152	2	Tu., Th., at 8	Ch. 101	McPherson
153-154	2 to 3	Lab. open in afternoons		McPherson
157-158	3	M., W., F., at 11	Ch. 207	Henderson
161-161	2 to 3	Lab. open daily, 8 to 12 and 1 to 4		Henderson
165	2	Tu., Th., at 10	Ch. 207	Foulk
167	3 to 5	To be arranged		Foulk
168	3 to 5	L., Tu., at 1 Lab. to be arranged	Ch. 207	Shipley
169	3 to 5	To be arranged		Foulk
176	3	Tu., Th., at 9	Ch. 207	Foulk
177	2	Tu., Th., at 8	Ch. 207	Withrow
178	1	M., at 8	Ch. 207	Withrow
182		Inspection trip		Withrow
184		Report		Withrow
185	2	M., Tu., 1 to 4	Ch. 207	Withrow
186	3	W., Th., F., 1 to 4	Ch. 207	Withrow
187-187	2 to 3	Lab. open in afternoons		Henderson
192	2 to 3	W., F., at 8	Ch. 101	Henderson
194	2	Tu., Th., at 8	Ch. 207	Withrow
196	2	To be arranged		Henderson
201-202	3	To be arranged		Henderson
205-206	3 to 5	To be arranged		McPherson
209-210	3	To be arranged		Henderson
213	2	W., F., at 8	Ch. 101	Henderson

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE 101

Course No.	Hours	Time	Room	Instructor
215	2	To be arranged		McPherson
218	2	To be arranged		Evans
221	2	W., F., at 8	Ch. 101	Henderson
224	2	W., F., at 8	Ch. 101	Henderson
227	2	To be arranged		Foulk
231-232	1	W., at 9	Ch. 302	McPherson
235-236	5 to 10	To be arranged		All professors

COMPARATIVE LITERATURE

191-192	2	M., F., at 10	U. 321	Lewisohn
193-194	2	Tu., Th., at 8	U. 201	Peirce
195	2	Tu., Th., at 10	U. 321	Bolling
111-112	1	W., at 3 (Latin)	U. 316	Elden
175	2	M., W., at 3 (German)	U. 321	Barrows

ECONOMICS AND SOCIOLOGY

Economics

131-131	3	M., W., F., at 9		Drury
131-131	3	M., W., F., at 1	P. 11	Walradt
133-133	3	M., W., F., at 1	P. 6	Weidler
133-133	3	M., W., F., at 9	P. 11	Wilkinson
135-136	3	M., W., F., at 8	P. 109	
135-136	3	M., W., F., at 8	P. 106	Drury
135-136	3	M., W., F., at 8	P. 12	Wilkinson
135-136	3	Tu., Th., S., at 9	P. 109	Weidler
135-136	3	M., W., F., at 9		Ruggles
135-136	3	M., W., F., at 9	P. 12	
135-136	3	M., W., F., at 9	P. 13	
135-136	3	Tu., Th., F., at 10	P. 13	Lockhart
135-136	3	Tu., Th., F., at 10		Drury
135-136	3	Tu., Th., F., at 10	P. 12	
135-136	3	M., W., F., at 11	P. 6	Drury
135-136	3	M., W., F., at 11	P. 109	Hammond
135-136	3	M., W., F., at 11	P. 11	Weidler
135-136	3	M., W., F., at 1	P. 12	Parry
135-136	3	M., W., F., at 2	P. 6	Parry

ECONOMICS AND SOCIOLOGY—Continued

Course No.	Hours	Time	Room	Instructor
135-136	3	M., W., F., at 4	O. 105	Wilkinson
136	3	Tu., Th., S., at 10		Weidler
135	3	Tu., Th., S., at 10		Weidler
139	3	Tu., Th., at 8	P. 11	Harris
		Lab., Tu. or Th., 10 to 12	P. 11	
139	3	Tu., Th., at 9	P. 11	Harris
		Lab., Tu. or Th., 10 to 12	P. 11	
139	3	M., F., at 10	P. 11	
		Lab., Tu. or Th., 10 to 12	P. 11	
141-144	2	Tu., Th., at 11		Lockhart
145-146	2	M., 3 to 5	P. 13	Ruggles
147-148	2	Tu., Th., at 8	P. 109	Walradt
149	3	Tu., Th., Sat., at 9		
153-154	3	M., W., F., at 9	P. 6	Lockhart
157-158	2	Tu., Th., at 8	P. 101	Ruggles
160-162	3	M., W., F., at 1	O. 5	
163-164	3	M., W., F., at 1	P. 109	Hammond
165-166	3	M., W., F., at 2	P. 109	Hammond
167-168	3	M., W., F., at 8	P. 9	Ruggles
169-170	2	To be arranged		Parry
171	3	Tu., Th., at 8	P. 11	
		Lab. Tu. or Th., 10 to 12	P. 11	
171	3	Tu., Th., at 9	P. 9	
		Lab. Tu. or Th., 10 to 12	P. 11	
173-174	3	M., W., F., at 8	P. 11	Harris
175	3	M., W., F., at 11		Drury
177	2	Tu., at 9	P. 9	Mark
		Lab. Th., 1 to 3	P. 11	
177-178	2	Th., at 10	Ph. 303	Mark
		Lab. Th., 3 to 5	P. 11	
178	2	Tu., at 9; Lab. Tu., 1 to 3	P. 11	Mark
179-180	2	Tu., Th., at 9	P. 12	Lockhart
181-182	3	Tu., Th., F., at 10	P. 6	Walradt
207-208	2	M., 4 to 6	L. 305	All in- structors

Sociology

Course No.	Hours	Time	Room	Instructor
101	3	M., W., F., at 8	P. 101	Renz
101-102	3	M., W., F., at 8	P. 100	Hagerty
101-102	3	M., W., F., at 8	P. 6	
101-102	3	M., W., F., at 9	O. 2	Renz
101-102	3	M., W., F., at 9	P. 109	Mark
101-102	3	Tu., Th., S., at 9	P. 6	Bruder
101-102	3	M., W., F., at 11	O. 2	
101-102	3	Tu., Th., F., at 10	Bio. 100	Bruder
101-102	3	M., W., F., at 2	P. 11	Mark
101-102	3	M., W., F., at 4	P. 6	Mark
101	3	M., W., F., at 8	P. 101	Renz
103-106	3	M., W., F., at 1	P. 13	Bruder
107	3	M., W., F., at 1	O. 2	Renz
108	1	Th., at 8	Arch. Bld.	Mills
111-112	3	M., W., F., at 9		Hagerty
113-114	3	M., W., F., at 2	P. 12	
115-116	2	To be arranged		Hagerty
117-118	2	M., 3 to 5	P. 109	Hagerty
120	3	M., W., F., at 1	O. 2	Renz
123-124	3	M., W., F., at 11	P. 12	Bruder
125-126	3	M., W., F., at 2	O. 2	Renz
127-128	3	Tu., Th., F., at 10	P. 109	Parry
203-204	3	M., W., F., at 11	L. 305	Hagerty
207-208	2	M., 4 to 6	L. 305	All in-
				structors

ENGLISH

101-104	2		
		Sections for Agriculture	
		M., F., at 8	Ph. 102
		M., F., at 10	Ph. 102
		Tu., Th., at 1	Ph. 102
		Tu., Th., at 3	Ph. 102
		Sections for Arts and Education	
		Tu., Th., at 8	Ph. 102
		Tu., Th., at 9	Ph. 102

ENGLISH—Continued

Course No.	Hours	Time	Room	Instructor
		Tu., Th., at 10	Ph. 102	
		Tu., Th., at 11	Ph. 104	
		W., F., at 8	Ph. 104	
		W., F., at 3	Ph. 104	
		Sections for Engineers		
		Tu., Th., at 9	Ph. 104	
		Tu., Th., at 10	Ph. 104	
		Tu., Th., at 11	Ph. 303	
		M., F., at 11	Ph. 102	
104-101	2	W., F., at 8	Ph. 304	
		M., F., at 8	Ph. 204	
		Sat., 8 to 10	Ph. 204	Cooper
105-106	2	Tu., Th., at 11	Ph. 302	Beck
107-108	2	Tu., Th., at 11	Ph. 202	Graves
111-112	2	Tu., at 3; Th., 3 to 5	Ph. 304	Ketcham
121-122	2	Tu., Th., at 1	Ph. 304	Ketcham
121-122	2	Tu., Th., at 2	Ph. 304	Ketcham
121-122	2	Tu., Th., at 10	Ph. 304	Ketcham
124	2	Tu., Th., at 11	Ph. 304	Ketcham
125-126	2	Tu., Th., at 9	Ph. 304	Ketcham
127-128	2	Tu., Th., at 11	Ph. 204	McKnight
131-133	3	M., W., F., at 9	Ph. 104	Cooper
131-133	3	M., W., F., at 11	Ph. 204	Duncan
131-133	3	Tu., Th., S., at 8	Ph. 104	Beck
131-133	3	S., 10 to 12	Ph. 204	Cooper
133-131	3	M., W., F., at 8	Ph. 202	Taylor
133-131	3	M., W., F., at 1	Ph. 202	Graves
135-136	2	Tu., Th., at 2	Ph. 204	Cooper
137-138	2	Tu., Th., at 11	Ph. 102	Denney
141-142	3	M., Tu., Th., at 10	Ph. 202	Taylor
151-152	3	M., W., F., at 1	Ph. 104	McKnight
153-154	3	M., W., F., at 3	Ph. 104	McKnight
155-156	3	M., W., F., at 9	Ph. 202	Taylor
157-158	3	M., W., F., at 2	Ph. 202	Graves
165-166	3	Tu., Th., F., at 10	Ph. 204	McKnight
167-168	3	M., W., F., at 11	Ph. 202	Denney
169-170	2	Tu., Th., at 1	Ph. 204	Cooper

Course No.	Hours	Time	Room	Instructor
181-182	2	M., F., at 10	Ph. 104	Denney
201-202	2	W., 4 to 6	L. 105	Graves
205-206	2	M., 4 to 6	L. 104	Denney
207-208	2	Tu., 4 to 6	L. 104	Taylor
209-210	2	F., 4 to 6	L. 105	McKnight
213-214	2	Th., 4 to 6	L. 104	Cooper
219-220	2	Th., 4 to 6	L. 105	Denney

EUROPEAN HISTORY

101-102	3	M., W., F., at 8	U. 201	Perkins
101-102	3	M., W., F., at 8	U. 202	Harris
101-102	3	M., W., F., at 9	U. 201	Perkins
101-102	3	M., W., F., at 11	U. 202	Siebert
101-102	3	M., W., F., at 11	U. 313	Harris
101-102	3	M., W., F., at 1	U. 201	McNeal
101-102	3	M., W., F., at 2	U. 201	McNeal
101-102	3	Tu., Th., F., at 10	U. 202	Harris
103-104	3	Tu., Th., F., at 10	U. 201	Perkins
103-104	3	M., W., F., at 9	U. 405	Harris
103-104	3	Tu., Th., at 3; S. at 10	U. 201	Harris
105-106	3	M., W., F., at 11	U. 201	McNeal
107-108	2	Tu., Th., at 11	U. 201	McNeal
109-110	2	Tu., Th., at 10	L. 304	Siebert
113-114	3	M., W., F., at 9	U. 202	Siebert
115-116	2	Tu., Th., at 9	U. 202	Siebert
119-120	2	M., 4 to 6	U. 205	McNeal
123-124	3	M., W., F., at 1	U. 202	Perkins
125-126	3	M., W., F., at 3	U. 201	Harris
127-128	3	S., 9 to 11	U. 202	
152	2	Tu., 2 to 4	U. 202	Siebert, Perkins
201-202	2	To be arranged		McNeal
203-204	2 to 5	M., 3 to 5	U. 202	Siebert

GEOLOGY

101-102	3	M., W., F., at 8	O. 5	Hills
101-102	3	M., W., F., at 9	O. 5	Hills

GEOLOGY—Continued

Course No.	Hours	Time	Room	Instructor
101-102	3	M., W., F., at 1	O. 105	Bownocker
		Field trips Saturday		
103	3	M., W., F., at 9	O. 105	Bownocker
104	3	M., W., F., at 9	O. 105	Prosser
		Field trips Saturday		
105	3 to 5	To be arranged	O. 106	Prosser
106	3	To be arranged	O. 202	Bownocker
107-108	2 to 5	To be arranged	O. 106	Prosser
109-110	2 to 5	To be arranged	O. 202	Bownocker
111	3	Tu., Th., S., 1 to 4		
		(Field trips)	O. 5	Hills
113-114	2 to 5	To be arranged	O. 106	Prosser, Hills
115	1	Th., at 1	O. 202	Bownocker
116	3	To be arranged	O. 5	Hills
141-142	2 to 5	To be arranged	O. 105, 5, O. 202	Prosser, Bownock- er, Hills
151 (Agr.)	3	L., M., W., at 2	O. 105	Prosser
		W., F., at 8	O. 105	Verwiebe
		Lab., M., at 8	O. 204	Verwiebe
		M., at 1	O. 204	Verwiebe
		Tu., at 1	O. 204	Verwiebe
		Tu., at 3	O. 204	Verwiebe
		W., at 9	O. 204	Verwiebe
		W., at 2	O. 204	Verwiebe
		Th., at 8	O. 204	Verwiebe
		Th., at 1	O. 204	Verwiebe
		F., at 10	O. 204	Verwiebe
		Field trips Fri. P. M.		
		Sat. A. M.		
151 Agr.	3	L., M., W., at 2	O. 105	Verwiebe
		W., F., at 8	O. 105	Verwiebe
		Lab., M., at 9	O. 204	Verwiebe
		M., at 10	O. 204	Verwiebe
		Tu., at 2	O. 204	Verwiebe
		Tu., at 3	O. 204	Verwiebe

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE 107

Course No.	Hours	Time	Room	Instructor
		W., at 3	O. 204	Verwiebe
		W., at 11	O. 204	Verwiebe
		Field trips Fri. P. M.		
		Sat. A. M.		
153	3	M., W., F., at 11	O. 105	Bownocker
162	4	L., Tu., W., Th., at 11	O. 106	Mark
		Lab. to be arranged	O. 1	Mark
164	3	M., Tu., Th., at 10	O. 204	Verwiebe
165 Engr.	3	Tu., Th., at 10	O. 105	Prosser
		Lab., M., at 8	O. 204	Verwiebe
		M., at 1	O. 204	Verwiebe
		Tu., at 1	O. 204	Verwiebe
		Tu., at 3	O. 204	Verwiebe
		W., at 9	O. 204	Verwiebe
		W., at 2	O. 204	Verwiebe
		Th., at 8	O. 204	Verwiebe
		Th., at 1	O. 204	Verwiebe
		F., at 10	O. 204	Verwiebe
		Field trips, Fri. P. M.		
		Sat A. M.		
166	2	Th., at 11; W., 2 to 4	O. 202	Bownocker, Hills
167	3	M., W., F., at 8	O. 8	Bownocker
168	3	L., Tu., Th., at 11	O. 105	Prosser
		Lab., Tu., at 1	O. 204	Verwiebe
		Th., at 2	O. 204	Verwiebe
		F., at 10	O. 204	Verwiebe
		Field trips, Fri. P. M.		
		Sat. A. M.		
175-176	2	M., W., at 4	O. 5	Hills
201-202	3 to 5	To be arranged	O. 106	Prosser
203-204	3 to 5	To be arranged	O. 106, 202	Prosser, Bownocker

GERMAN

101-102	4	Tu., W., Th., F., at 8	U. 320
101-102	4	M., Tu., Th., F., at 9	U. 320
101-102	4	M., Tu., Th., F., at 9	H. F. 107
101-102	4	M., Tu., Th., F., at 10	U. 320

GERMAN—Continued

Course No.	Hours	Time	Room	Instructor
101-102	4	M., Tu., Th., F., at 10	U. 406	
101-102	4	M., Tu., Th., F., at 11	U. 320	
101-102	4	M., Tu., Th., F., at 1	U. 320	
101-102	4	M., Tu., Th., F., at 2	U. 320	
101-102	4	Tu., W., Th., F., at 3	U. 320	
101-102	4	M., Tu., W., Th., at 4		
		(For teachers only)	U. 310	
102-103	4	Tu., W., Th., F., at 8	U. 321	
101	4	Tu., W., Th., F., at 8	H. F. 106	
103-104	4	Tu., W., Th., F., at 8	U. 319	
103-104	4	M., Tu., Th., F., at 9	U. 319	
103-104	4	M., Tu., Th., F., at 9	H. F. 106	
103-104	4	M., Tu., Th., F., at 10	U. 319	
103-104	4	M., Tu., Th., F., at 10	H. F. 106	
103-104	4	M., Tu., Th., F., at 11	U. 406	
103-104	4	M., Tu., Th., F., at 1	U. 319	
103-104	4	M., Tu., Th., F., at 2	U. 319	
103-104	4	Tu., W., Th., F., at 3	H. F. 106	
103-104	4	Tu., W., Th., F., at 3	U. 319	
104	4	Tu., W., Th., F., at 8	H. F. 106	
106	4	M., Tu., Th., F., at 9		
106	4	M., Tu., Th., F., at 10	H. F. 107	
106	4	Tu., W., Th., F., at 3	H. F. 107	
107-108	4	M., Tu., Th., F., at 10	U. 309	Busey
107-108	4	M., Tu., Th., F., at 10	U. 410	Kotz
115-116	2	Tu., Th., at 9	U. 201	Kotz
115-116	2	M., F., at 10	H. F. 112	Keidel
117-118	2	Tu., Th., at 11	U. 209	Thomas
119-120	2	Tu., Th., at 10	L. 107	Lewisohn
119-120	2	Tu., Th., at 3	U. 308	Keidel
131-132	2	Tu., Th., at 9	U. 400	Eisenlohr
131-132	2	Tu., Th., at 11	U. 319	Busey
133-134	2	M., Tu., Th., F., at 9	U. 401	Keidel
151-152	3	M., W., F., at 11	U. 319	Evans
157-158	2	Tu., Th., at 11	U. 321	Eisenlohr
161-162	2	To be arranged		Thomas
163-164	2	Tu., Th., at 4	L. 107	Lewisohn

Course No.	Hours	Time	Room	Instructor
171-172	2	Tu., Th., at 2	U. 321	Eisenlohr
173-174	2	Tu., Th., at 3	U. 321	Evans
175-176	2	M., W., at 3	U. 321	Barrows
177-178	2	W., 4 to 6		Busey
201-202	2	To be arranged	L. 317	Eisenlohr
209-210	2	To be arranged	L. 317	Keidel
215-216	2	Tu., 4 to 6	L. 317	Evans

GREEK LANGUAGE AND LITERATURE

101-102	4	M., Tu., Th., F., at 11	U 316	Bolling
105-106	4	M., Tu., Th., F., at 2	U. 306	Bolling
107-108	3	To be arranged		Bolling
109-110	2	To be arranged		Bolling
111-112	2	To be arranged		Bolling
113-114	2	To be arranged		Bolling
115-116	2	Tu., Th., at 3	U. 306	Bolling
119-120	2	To be arranged		Bolling
121-122	2 to 4	To be arranged		Bolling
123-124	2	M., F., at 3	U. 306	Bolling

JOURNALISM

101-102	3	L., M., at 9; Lab. to be arranged	U. 211	Myers
105-106	3	L., W., at 9; Lab. to be arranged	U. 211	Myers
109-110	2	L., F., at 9; Lab. to be arranged	U. 211	Myers

LATIN

101-102	4	M., Tu., Th., F., at 10	U. 316	Elden
101-102	4	M., Tu., Th., F., at 11	U. 306	Hodgman
101	4	M., Tu., Th., F., at 2	U. 308	Derby
101	4	M., Tu., Th., F., at 2	U. 308	Derby
103-104	3	M., W., F., at 9	U. 306	Hodgman
103-104	3	M., W., F., at 2	U. 316	Elden
105	2	Tu., Th., at 9	U. 316	Elden
106	2	Tu., Th., at 9	U. 316	Hodgman
109-110	1	W., at 2	U. 306	Derby

LATIN—Continued

Course No.	Hours	Time	Room	Instructor
111-112	1	W., at 3	U. 316	Elden
113-114	3	M., W., F., at 9	U. 316	Elden
115-116	3	M., Tu., F., at 10	U. 306	Hodgman
119-120	1 to 2	To be arranged		Hodgman
121-122	2	M., W., at 3	U. 308	Hodgman, Elden
123-124	1	Th., at 10	U. 306	Hodgman
125-126	1	F., at 3	U. 316	Elden
127-128	2	To be arranged		Derby
129	2	Tu., Th., at 9	U. 306	Hodgman
147-148	4	Tu., W., Th., F., at 1	U. 316	Derby
149-150	4	M., Tu., Th., F., at 10	U. 307	
201-202	1	To be arranged	U. 306	Hodgman, Elden
203-204	1	To be arranged		
213-214	2 to 3	To be arranged	U. 307	Derby

MATHEMATICS

101-102	5	Daily at 9	Lo. 208	Minor
113-114	5	Daily at 8	U. 401	Preston
121-122	3	L. Tu., Th., at 9	U. 311	Kuhn
121-122	3	L. Tu., Th., at 10	U. 412	West
121-121	3	L. Tu., Th., at 1	U. 310	Arnold
		Lab. Tu., 2 to 4	U. 412	Kuhn
		W., 2 to 4	U. 412	Swartzel
		Th., 2 to 4 (121 only	U. 412	West
		both semesters)		
125-126	2	To be arranged		Arnold
127-128	3	M., W., F., at 9	U. 311	Kuhn
129-130	3	Tu., Th., at 11	U. 412	West
		Lab. Tu., 2 to 4	U. 410	
131-132	5	Daily at 8	U. 312	Bohannon
131-132	5	Daily at 8	U. 308	McCoard
131-132	5	Daily at 9	U. 313	Bareis
131-132	5	Daily at 9	U. 308	McCoard
131-132	5	Daily at 9	U. 309	Rasor
131	5	Daily at 9	U. 410	Rickard

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE 111

Course No.	Hours	Time	Room	Instructor
131-132	5	Daily at 11	U. 310	
131-132	5	Daily at 11	U. 312	Swartzel
131-132	5	Daily at 1	U. 313	Bareis
131-132	5	Daily at 1	U. 312	Preston
131-132	5	Daily at 2	U. 313	Rickard
131-132	5	Daily at 2	U. 312	Preston
131	5	Daily at 8	U. 310	Arnold
131	5	Daily at 9	U. 410	Rickard
132	5	Daily at 8	U. 310	Arnold
134	2	M., F., at 10	U. 412	West
141-142	5	Daily at 8	U. 309	Rasor
141-142	5	Daily at 8	U. 311	Bareis
141-142	5	Daily at 8	U. 313	Swartzel
141-142	5	Daily at 8	U. 410	Rickard
141-142	5	Daily at 9	U. 312	Bohannan
141-142	5	Daily at 9	U. 310	Arnold
141-142	5	Daily at 11	U. 308	McCoard
141-142	5	Daily at 11	U. 311	Kuhn
141	5	Daily at 8	U. 412	West
141	5	Daily at 9		
142	5	Daily at 8	U. 412	West
151	1	Tu., at 10	U. 301	Rasor
163-164	3	To be arranged		Bareis
167-168	3	M., Th., F., at 10	U. 312	Bohannan
173-174	3	M., Tu., Th., at 10	U. 311	Kuhn
177-178	3	M., Tu., Th., at 10	U. 310	Arnold
181	3	To be arranged		West
183-184	2	To be arranged		West
185-186	2	To be arranged		Arnold
201-202	3	M., F., at 10; Th., at 11	L. 306	Rasor
203-204	3	M., Tu., F., at 9	L. 306	Swartzel

MECHANICS

101-102	5	Daily at 8	Lo. 232	Boyd
	5	Daily at 8	Lo. 231	Coddington
	5	Daily at 9	Lo. 232	Boyd
	5	Daily at 9	Lo. 231	Coddington
	5	Daily at 11	Lo. 232	Boyd

MECHANICS—Continued

Course No.	Hours	Time	Room	Instructor
	5	Daily at 11	Lo. 231	Coddington
104	2	M., F., at 10	Lo. 232	Boyd
105-106	3	To be arranged		Boyd, Coddington

MILITARY SCIENCE AND TACTICS

1-1	1	M., W., F., at 11; Th., at 4	Armory	Converse
	1	M., Tu., W., Th., at 4	Armory	Converse
2-2	1	M., W., F., at 11	Armory	Converse
	1	M., Tu., W., at 4	Armory	Converse

MINERALOGY

102	3	M., W., F., at 9	Lo. 107	McCaughey
102	3	M., Tu., Th., at 8	Lo. 107	McCaughey
104	3	M., Tu., 1 to 4	Lo. 107	McCaughey
104	3	Th., F., 1 to 4	Lo. 107	McCaughey
117-118	3	To be arranged	Lo.	McCaughey
121	3	To be arranged	Lo.	McCaughey
122	3	To be arranged	Lo.	McCaughey
123	3	To be arranged	Lo.	McCaughey
126	3	To be arranged	Lo.	McCaughey

PHILOSOPHY

101-102	3	M., W., F., at 9	U. 321	Leighton, Chandler, Bingham
102-101	3	M., W., F., at 1	U. 321	Davies, Bingham
102-101	3	Tu., Th., S., at 9	U. 405	Chandler
105-106	3	M., W., F., at 2	U. 309	Davies
111-112	2	M., F., at 10	U. 405	Davies
113	3	M., W., F., at 9		Chandler
115-116	2	Tu., Th., at 2	U. 405	Chandler
119	3	M., W., F., at 2	U. 321	Leighton
123-124	3	M., W., F., at 11	U. 309	Chandler
131-132	3	Tu., Th., S., at 9	U. 321	Davies

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE 113

Course No.	Hours	Time	Room	Instructor
134	3	M., W., F., at 9		Leighton
142	3	M., W., F., at 2	U. 321	Leighton
151-152	3	M., W., F., at 8	U. 306	Bingham
		M., W., F., at 11	U. 321	Leighton
201-202	3 to 6	M., 3 to 5	L. 309	Leighton
		F., 3 to 5	L. 309	Davies
203-204	2	Tu., Th., at 3	L. 309	Chandler
207-208	3 to 6	To be arranged		Leighton, Chandler

PHYSICAL EDUCATION

For Men

101	1	L. M., at 10	Ph. 200	Dr. Wingert
		W., at 1	Ph. 200	
		W., at 3	Ph. 200	
		F., at 3	Ph. 200	
		Lab. one period	Gym.	
		M., at 9, 10, 11, 2 or 3		
		Tu., at 9, 10, 11, 2 or 3		
		W., at 9, 11, 2 or 3		
102	1	Any two days		Wingert, Ohlson, Bartholomew
		M., at 9, 10, 11, 2 or 3	Gym.	
		Tu., at 9, 10, 11, 2 or 3		
		W., at 9, 11, 2 or 3		
		Th., at 9, 10, 11, 2 or 3		
		F., at 9, 10, 11, 2, 3 or 4		

For Women

Freshmen	1	Any three days		
		M., Tu., Th., F., at 9	Gym.	Bocker, Sauer
		M., Tu., Th., F., at 10	Gym.	Bocker, Sauer
Sophomores	1	W., 9 and 2; other days at 9	Gym.	Bocker, Sauer

PHYSICAL EDUCATION—Continued

Course No.	Hours	Time	Room	Instructor
		M., Tu., W., Th., F., at 11	Gym.	Bocker, Sauer
Advanced		L. Tu., Th., F., at 1	Gym.	Bocker
		Practice M., W., at 1	Gym.	

PHYSICS

101	6	Daily at 11; S., 8 to 11	Ph. 205	
103-104	4	M., W., F., at 8	Ph. 205	
		W., 2 to 4	Ph. 100	Earhart
105-106	4	L. Tu., Th., at 10	Ph. 205	Blake
		Tu., Th., at 1	Ph. 205	Blake
		Lab. Tu., Th., 8 to 10, or 2 to 4	Ph. 100	Blake
107	4	L. Tu., Th., at 8	Ph. 205	Heil
		Lab. Tu., Th., 9 to 11	Ph. 100	
108	3	M., W., at 9; F., 8 to 10	Ph. 205, 100	
111-112	3	L. M., W., at 9	Ph. 200	Cole
		L. W., F., at 11	Ph. 200	Cole
		Q. M., at 8	Ph. 302	
		M., at 11	Ph. 302	
		M., at 3	Ph. 302	
		F., at 8 (For 112 only)	Ph. 303	
		F., at 9	Ph. 302	
		Lab. Tu., 2 to 4	Ph. 301, 306, 307	
		W., 2 to 4	Ph. 301, 306, 307	
		Th., 2 to 4	Ph. 301, 306, 307	
		S., 8 to 10	Ph. 301, 306, 307	
112	3	Lab. F., 2 to 4	Ph. 301, 306, 307	
111	3	To be arranged		
113-114	5	L. M., W., at 9	Ph. 200	Cole
		W., F., at 11	Ph. 200	Cole

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE 115

Course No.	Hours	Time	Room	Instructor
		Q. M., at 8	Ph. 302	
		M., at 3	Ph. 302	
		M., at 11	Ph. 302	
		F., at 8 (For 114 only)	Ph. 302	
		F., at 9	Ph. 302	
		F., at 1	Ph. 204	
		R. Tu., Th., at 9	Ph. 302	
		R. Tu., Th., at 1		
		R. Tu., at 9; Th., at 1		
		Lab. Tu., 2 to 4	Ph. 301, 306, 307	
		Th., 2 to 4	Ph. 301, 306, 307	
		S., 8 to 10	Ph. 301, 306, 307	
		W., 2 to 4	Ph. 301, 306, 307	
113	5	Q. F., at 10	Ph. 205	
		R. Tu., Th., at 10	Ph. 303	
		Tu., Th., at 3	Ph. 205	
		Lab. F., 2 to 4	Ph. 301, 306, 307	
115-116	2	To be arranged		Smith, Heil
120	2	To be arranged		Cole
121-122	3 to 5	M., Tu., W., 1 to 4	Ph. 100	Smith
123-124	3 to 5	M., Tu., W., 1 to 4	Ph. 100	Smith
133	2	M., Tu., 2 to 4	Ph. 100	Earhart, Heil
		F., 2 to 4; S., 8 to 10	Ph. 100	
134	3	M., Tu., 1 to 4	Ph. 1	Barnett
		Th., F., 2 to 5	Ph. 1	
135	5	M., Tu., W., 1 to 4	Ph. 1	Barnett
		Th., F., 1 to 4; S., 8 to 11	Ph. 1	Barnett
138	2	M., Tu., 2 to 4	Ph. 100	Earhart
		Th., F., 2 to 4	Ph. 100	
139-140	3 to 5	To be arranged	Ph. 1	Barnett
143-144	3	M., Tu., Th., at 8	Ph.	Cole, Ear- hart
145-146	1	M., at 4	Ph. 205	Cole
201-202	3 to 5	To be arranged	Ph.	
203-204	3	To be arranged	Ph.	Blake

PHYSICS—Continued

Course No.	Hours	Time	Room	Instructor
205-206	2	To be arranged	Ph.	Smith
213-214	2	To be arranged	Ph.	Earhart, Blake
215-216	3	To be arranged	Ph.	Barnett

PHYSIOLOGY

101-102	3	M., W., F., at 8	Bio. 200	Seymour
101-102	3	M., W., F., at 8	Bio. 100	Durrant
101-102	3	M., W., F., at 9	Bio. 100	Bleile
101-102	3	M., W., F., at 9	Bio. 200	
101-102	3	M., W., F., at 2	Bio. 100	Seymour
101-102	3	M., W., F., at 3	Bio. 101	Seymour
101-102	3	Tu., Th., S., at 8	Bio. 200	Wright
101-102	3	Tu., Th., S., at 9	Bio. 100	Seymour
104	3	Th., F., 1 to 4	Bio. 208	Bleile, Sey- mour
105	5	M., Tu., W., 1 to 4	Bio. 201-8	Bleile, Seymour, Durrant
107	3	M., W., F., at 9	Bio. 101	Durrant
109-110	3	To be arranged	Bio.	Bleile
111-112	5	To be arranged	Bio.	Bleile
115	3	M., W., F., at 11	Bio. 200	Bleile
118	3	M., W., F., at 11	Bio. 200	Bleile
119-120	3	Tu., Th., S., at 9	Bio. 200	Bleile, Sey- mour
119	3	Tu., Th., S., at 10	Bio. 200	Bleile
201-202	3	To be arranged	Bio.	Bleile, Sey- mour
203-204	5	To be arranged	Bio.	Bleile, Sey- mour

POLITICAL SCIENCE

101	3	M., W., F., at 8	U. 200	Coker
101	3	M., W., F., at 2	U. 200	Spencer
101	3	Tu., Th., S., at 10	U. 200	Coker
102	3	M., W., F., at 8	U. 200	Coker

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE 117

Course No.	Hours	Time	Room	Instructor
102	3	M., W., F., at 2	U. 200	Spencer
102	3	Tu., Th., S., at 10	U. 200	Spencer
101	3	M., W., F., at 11	U. 200	Coker
105	3	To be arranged		Coker
106	3	M., W., F., at 9	U. 200	Spencer
107	3	M., W., F., at 3	U. 200	Spencer
113-114	1	M., at 10	U. 200	Spencer
117-118	2	Tu., at 4	L. 303	Coker
125-126	3	M., W., F., at 8	L. 303	Spencer
130	3	M., W., F., at 9	U. 200	Coker
131-132	2	Tu., Th., at 9	U. 200	Coker

PSYCHOLOGY

101-102	3	M., W., F., at 8	U. 400	
101-102	3	M., W., F., at 9	U. 400	
101-102	3	M., W., F., at 11	U. 400	
101-102	3	M., W., F., at 1	U. 400	
101-102	3	M., W., F., at 2	U. 400	
101-102	3	M., W., F., at 3	U. 400	
101-102	3	Tu., Th., S., at 11	U. 400	
102-101	3	M., W., F., at 3	U. 406	
103-104	2	Tu., Th., at 10	U. 405	Arps
107-108	2	M., W., at 1	U. 406	Pintner
107-108	2	M., W., at 3	U. 401	
111-112	3	Tu., 1 to 4; Th., 1 to 3	U. 415	Arps, Weiss
112-111	3	Tu., 9 to 12; Th., 9 to 11	U. 415	Arps, Weiss
114	2	M., W., at 9		Weiss
115-116	2	Tu., Th., at 11	U. 410	Evans
119	3	M., 1 to 4; W., 1 to 3	U. 415	Weiss
121-122	4	M., W., F., at 11; S., at 9	U. 401	
125-126	3	M., W., F., at 9	U. 406	Evans
128	2	Tu., Th., at 10		
129-130	2	M., W., at 1	U. 410	Arps
133-134	2 to 5	M., W., F., 2 to 4	U. 410	Pintner
137-138	2	W., F., at 3	U. 405	Arps
141-142	2 to 3	Arranged	U. 403	Arps, Pintner, Weiss
149-150	2	Tu., Th., at 9	U. 406	

PSYCHOLOGY—Continued

Course No.	Hours	Time	Room	Instructor
201-202	3 or more	To be arranged		Arps, Pinter, Weiss
203-204	2	Tu., 7 to 9 p. m.	L. 309	All instructors

ROMANCE LANGUAGES**French**

101-102	4	Tu., W., Th., F., at 8	U. 303	Bruce
101-102	4	M., Tu., Th., F., at 9	U. 301	Ditchy
101-102	4	M., Tu., Th., F., at 10	U. 401	Hamilton
101-102	4	M., Tu., Th., F., at 10		Chapin
101-102	4	M., Tu., Th., F., at 10		Moore
101-102	4	M., Tu., Th., F., at 11	U. 303	Bowen
101-102	4	M., Tu., Th., F., at 11	U. 301	
101-102	4	M., Tu., Th., F., at 11		Peirce
101-102	4	M., Tu., Th., F., at 1	U. 302	Moore
101-102	4	M., Tu., Th., F., at 2	U. 301	Hamilton
101-102	4	Tu., W., Th., F., at 3	U. 301	
101	4	M., Tu., Th., F., at 1	U. 309	
103-104	4	Tu., W., Th., F., at 8	U. 302	Chapin
103-104	4	M., Tu., Th., F., at 9	U. 303	Moore
103-104	4	M., Tu., Th., F., at 10	U. 302	Bruce
103-104	4	M., Tu., Th., F., at 10	U. 313	
103-104	4	M., Tu., Th., F., at 11	U. 302	Ditchy
103-104	4	M., Tu., Th., F., at 11		Moore
103-104	4	Tu., W., F., at 4	U. 301	
106	4	M., Tu., Th., F., at 10	U. 308	Chapin
107-108	2	Tu., Th., at 8	U. 301	Ingraham
107	2	Tu., Th., at 9	U. 209	Peirce
109-110	3	M., W., F., at 8	U. 316	Peirce
109-110	3	M., Th., F., at 10	U. 301	Peirce, Bowen
111-112	3	M., W., F., at 8	U. 301	Ingraham
113-114	2	Tu., Th., at 9		Bruce
117-118	2	Tu., 3 to 5	U. 305	Bowen
119-120	2	M., 3 to 5	U. 305	Bowen
122	2	To be arranged		Bowen

Italian

Course No.	Hours	Time	Room	Instructor
101-102	4	M., Tu., Th., F., at 2	U. 303	Bruce

Spanish

101-102	4	M., Tu., Th., F., at 9	U. 302	Hamilton
101-102	4	M., Tu., Th., F., at 9		Chapin
101-102	4	M., Tu., Th., F., at 10	U. 303	Nathan
101-102	4	M., Tu., Th., F., at 10	U. 400	Ditchy
101-102	4	M., Tu., Th., F., at 11		Nathan
101-102	4	M., Tu., Th., F., at 2	U. 302	Ditchy
101	4	M., Tu., Th., F., at 1	U. 303	Hamilton
103-104	4	M., Tu., Th., F., at 1	U. 301	Ingraham
107-108	2	Tu., Th., at 10	U. 305	Ingraham
110	4	To be arranged		Chapin
201-202	2	To be arranged	L. 311	Bowen
205-206	2	To be arranged	L. 311	Bruce
207-208	3 to 10	To be arranged	L. 311	Bowen
209-210	3 to 5	To be arranged	L. 311	Ingraham
211-212	2	To be arranged		Ingraham

ZOOLOGY AND ENTOMOLOGY

101-102	3	L. M., F., at 9	B. Z. 67, 109, 209	Osborn,
		M., F., at 1		Barrows,
		Tu., Th., at 8		Krecker,
		Tu., Th., at 9		Kostir,
		Tu., Th., at 1		Drake
	Lab.	M., 1 to 3	B. Z. 65, 69	Barrows,
		Tu., 10 to 12	65, 69	Krecker,
		Tu., 1 to 3	65, 69	Kostir,
		W., 8 to 10	65, 69	Assist-
		W., 1 to 3	65, 69	ants, Fel-
		Th., 8 to 10	65, 69	lows

ZOOLOGY AND ENTOMOLOGY—Continued

Course No.	Hours	Time	Room	Instructor
		Th., 1 to 3	65, 69	
		F., 1 to 3	65, 69	
		S., 10 to 12	65, 69	
101		Tu., Th., at 3	B. Z. 67, 65	
		Lab. Sat., 8 to 10		
107-108	3	L. M., F., at 10	B. Z. 100	Osborn, Metcalf
		Tu., Th., at 9	B. Z. 100	
		Lab. Tu., 8 to 10	B. Z. 65, 69	
		Th., 10 to 12	65, 69	Metcalf and As- sistants
		S., 8 to 10	65, 69	
112	3	L. Tu., Th., at 11	B. Z. 207	Hine
		Lab. Th., 1 to 4	B. Z. 207	Hine
113-114	4	L. M., W., at 3	B. Z. 109	Osborn
		Lab. M., W., 1 to 3	B. Z. 107	Osborn, Hine, Drake
121-122	3 to 5	L. Tu., at 1	B. Z. 111	Kostir
		Lab. Tu., 2 to 4; Th., F., 1 to 3	B. Z. 111	Kostir
129	2 to 5	Tu., Th., at 10	B. Z. 67	Barrows
130	2 to 5	Tu., Th., at 10	B. Z. 67	Barrows
131-132	3	Tu., Th., F., at 3	B. Z. 109	Osborn, Barrows, Krecker
137-138	3 to 5	L. Tu., Th., at 1	B. Z. 107	Osborn
		Lab. M., W., F., 1 to 3	B. Z. 107	Osborn
139-140	2	L. M., at 10	B. Z. 207	Hine
		Lab. Tu., 1 to 4	B. Z. 207	Hine
141-142	5 to 10	To be arranged	B. Z.	Osborn
143-144	1	Tu., at 4	B. Z. 109	Osborn
145-146	2	To be arranged	B. Z.	Osborn
147	2	Tu., Th., at 11	B. Z. 209	Hine
148	2	Tu., Th., at 10	B. Z. 109	Osborn
149-150	3 to 5	L. Tu., Th., at 1	B. Z. 211	Metcalf
		Lab. Th., 2 to 5		

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE 121

Course No.	Hours	Time	Room	Instructor
151-152	3	L. W., at 1 Lab. M., 1 to 4; W., 2 to 5	B. Z. 211	Metcalf
153-154	2	Tu., Th., at 11	B. Z. 67	Barrows
155-156	3	M., W., F., at 8	B. Z. 207	Hine
157-158	3 to 5	L. M., F., at 10 Lab. W., 1 to 4	B. Z. 111	Krecker
91- 92	4	M., W., F., at 9	B. Z. 207	Hine

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